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ABSTRACT

This report uses data from the National Longitudinal Transition Study of Special Education Students (NLTS) to look at the adult service experiences of young people with disabilities in their first 5 years after leaving secondary school. It focuses on five broad categories of service: (1) vocational assistance; (2) life skills training or occupational therapy; (3) help from a tutor, reader, or interpreter; (4) personal counseling or therapy; and (5) physical therapy or mobility training. The report also looks at the participation of youth in supervised living arrangements and programs in activity centers. Each of the five services is examined in terms of three concerns: the percentage of youth needing services and receiving them; characteristics of youth associated with the need for and receipt of services; and people providing the services. Then the report examines the frequency with which services were sought by/for youth but not received. The report concludes by examining possible associations between transition planning in secondary school and receipt of services after secondary school. A chapter discusses methodological issues, and an appendix details the procedure used to estimate standard errors. (Contains 30 references.) (DB)

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SERVICES FOR YOUTH WITH DISABILITIES AFTER SECONDARY SCHOOL

A Special Topic Report from the National Longitudinal Transition Study of Special Education Students

December 1993

Prepared for:

The Office of Special Education Programs
U.S. Department of Education

Prepared by:

Camille Marder
Marjorie Wechsler
Kathryn Valdés

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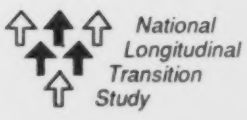

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1 OVERVIEW

In 1983, the attention of policymakers, practitioners, and researchers in the disability community began to focus on the transition of young people with disabilities from school to postschool life. Then Assistant Secretary for Special Education and Rehabilitative Services, Madeleine Will, described youth with disabilities in transition as crossing one of three bridges from secondary school to adult roles and responsibilities (1984). The first bridge is crossed by youth who were served by special education while in school, but who can achieve their postschool goals after they leave school without special help beyond the services or programs available to youth in general (e.g., college loan programs). Some of these youth need no disability-related services because their disabilities improved, others because their disabilities adversely affected their ability to benefit from their educational programs but do not adversely affect them in other situations.

Yet many youth continue to need services after they leave secondary school, either for a limited time or on an ongoing basis. These are the youth on Will's second and third bridges. Services continue to be needed to compensate for or ameliorate the functional deficits these youth have. Some of these deficits are in basic physical functions. For example, almost one in four youth classified as mentally retarded and almost half of youth classified as orthopedically impaired who were in special education in secondary school in the 1985-86 school year were reported by parents not to be able to dress themselves very well (Marder and Cox, 1991). Other functional deficits involve the application of basic mental processes to everyday tasks. For example, more than one-third of youth with disabilities could not count change or look up telephone numbers and use the telephone very well, according to parent reports. Youth with these kinds of functional limitations may need a variety of support services to achieve productive places in adult society, as described by Rosen, Rice, Walsh, Hartman, and McCallion (1992):

> By the time a student has reached late adolescence, he or she may have progressed through a sequence of special education programs designed to remediate deficiencies in academic and social functioning. Mildly impaired students may be functioning at a 5th or 6th grade level academically. They may have mastered most self-help skills and perhaps some prevocational or vocational skills. However, it is often unlikely that they are completely ready for employment. Indeed, such students are usually found to be in need of considerable transitional training in both community living and employment skills. Moderately and more severely retarded students may need even more intensive training and support, such as the most basic personal hygiene and prevocational training. In addition, this group often exhibit significant behavioral or emotional problems that impeded movement toward independence and require extensive staff resources and supervision to remain in programs. (p. 287)

The need for services after secondary school may be compounded by the fact that many youth with disabilities leave school without graduating. The dropout rate among youth with disabilities as a group is high; more than one-third of those who left school in 1985-86 or 1986-87 dropped out or were suspended or expelled (Wagner, 1991). These youth left school without full exposure to the training in academic, vocational, and life skills that their schools offered. In the years immediately following secondary school, fewer than half of these youth were competitively employed, and trends suggest that the picture does not improve over time (D'Amico and Blackorby, 1992).

But the process facing youth with disabilities in getting the services they need after leaving secondary school can be complex. Unlike special education, which is a single system that takes responsibility for providing services considered necessary for students to benefit from their educations, there is no unified system of adult services to help people with disabilities to achieve their maximum independence after leaving school. Instead, there can be a vast array of service providers—some offering or facilitating a broad range of services to individuals with many types of disabilities (e.g., Vocational Rehabilitation), others specializing in specific types of services (e.g., psychological counselors), and still others serving only individuals with particular disabilities (e.g., Lighthouse for the Blind). Although many providers of services for adults are private organizations, public agencies also play an important role in the adult services network. However, criteria for eligibility differ from agency to agency. These complexities combine to create "an atmosphere of waiting lists, program gaps, and uneven adult services" (Rosen et al., 1992, p. 287).

In 1983, as part of the amendments to the Education of the Handicapped Act (P.L. 98-199), the federal government authorized funding to support programs to help youth with disabilities leaving school to make the connection with providers of needed adult services. Building on this early transition policy initiative, the Individuals with Disabilities Education Act of 1990 (IDEA) went on to mandate that schools do transition planning for all students with disabilities who are age 16 or older. The intention of this legislation is to fix responsibility for transition planning with the schools and to encourage schools actively to build bridges to adult service agencies in support of youth with disabilities in transition.

IDEA requires schools to make available a broad array of transition services, defined as "a coordinated set of activities for a student, designed within an outcome-oriented process, which promotes movement from school to postschool activities, including postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, and/or community participation" [20 U.S.C. 1401 (1)(19)]. The explicit inclusion of adult services and community experiences asks school personnel to take on new roles and responsibilities on behalf of students with disabilities, particularly with regard to adult service providers, who work in organizations with whom many school personnel may have had little previous contact. "For successful transition to occur, linkages must exist among

key players in the transition process, namely the school, the family, and the community (including employers and adult service providers)" (DeStefano and Wermuth, 1992).

To know how to shape their new roles and exercise their new responsibilities in transition planning with regard to adult services and community participation, school personnel need a clear picture of how youth with disabilities experience the adult service system in their early postschool years. What services do they need when they leave school? Where are they able to find services? What do they do to find them? Who is successful in making the important connection to adult service providers?

The present report provides just such a picture of the adult service experiences of young people with disabilities in their first 5 years after leaving secondary school. In doing so, it not only can help school personnel and those with whom they collaborate in transition planning to build effective bridges to adult services for young people with disabilities, but it also provides an important baseline against which to assess future effects of new transition legislation. This report examines the patterns of service need and receipt in the first few years after secondary school of youth who were served by special education in secondary school in 1985-86 and had left secondary school between 1985-86 and 1989-90. Although the services that youth may have needed and received can be quite varied, this report focuses on five broad categories of service: vocational assistance; life skills training or occupational therapy; help from a tutor, reader, or interpreter; personal counseling or therapy; and physical therapy or mobility training. We also examine the participation of youth in two specific placements: supervised living arrangements and programs in activity centers.

The report begins by examining the need for the services mentioned above and the extent to which youth actually participated in the services in the early years after leaving secondary school. Our first look is at who needed no services at all, according to parent reports. The report then addresses the following questions for each of the five services:

- What percentage of youth needed services and received them?
- What characteristics of youth were associated with need for and receipt of services?
- Who provided services to youth?

Then, for supervised living arrangements and activity center programs, we examine the extent to which youth were in such placements, and the factors associated with their participation.

The report then examines the frequency with which services were being sought by/or for youth who needed them but were not receiving them, and the extent to which each type of placement was being sought by/or for youth who were not currently in it. Methods of seeking services are then described. The report concludes by examining possible

associations between transition planning in secondary school and receipt of services after secondary school.

2 METHODOLOGICAL ISSUES

Data for these analyses were collected as part of the National Longitudinal Transition Study of Special Education Students (NLTS), which is being conducted by SRI International under contract to the Office of Special Education Programs (OSEP) of the U.S. Department of Education. As part of this study, data were collected for a national sample of more than 8,000 youth who were ages 13 to 21 and enrolled as students in special education in secondary schools in the 1985-86 school year.

The first wave of data collection occurred in the summer and fall of 1987, when telephone interviews were conducted with each youth's parent or guardian (hereafter called the parent interview). Information was elicited regarding family background characteristics, source and type of services received, whether youth were enrolled in school during the preceding school year and/or planned to enroll for the upcoming school year, recent employment experiences, and social interactions. In the fall of 1990, a follow-up telephone survey was administered. Among the topics covered were youths' needs for and receipt of services since leaving high school, participation in postsecondary education or training, employment experiences, and place of residence.*

Data from the NLTS have been analyzed in a series of papers and reports prepared by the NLTS project team. *Youth with Disabilities: How Are They Doing? The First Comprehensive Report from the National Longitudinal Transition Study of Special Education Students* (Wagner, Newman, D'Amico, Jay, Butler-Nalin, Marder, and Cox, 1991), for example, includes chapters that describe the demographic and disability-related characteristics of youth in all 11 federal special education disability categories in use in 1985, their school performance, and their social interactions and living arrangements. *What Happens Next? Trends in Postschool Outcomes of Youth with Disabilities The Second Comprehensive Report from the National Longitudinal Transition Study of Special Education Students* (Wagner, D'Amico, Marder, Newman, and Blackorby, 1992) explores postsecondary education, employment, residential, and social experiences of youth in the subsequent years, using data from the 1987 and 1990 surveys. The present report adds to our understanding of an important dimension in the transition of youth with disabilities that is not covered in these earlier NLTS reports.

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* See Wagner, Newman, and Shaver, (1989) regarding procedures for the first wave of data collection, and Marder et al (1992) regarding procedures for the second wave of data collection.

The Adult Services Analysis Sample

Analyses in this report involve a maximum sample of 5,052* youth from all disability categories who:

- Were ages 13 to 21 and students in special education in secondary schools in the 1985-86 school year.
- Were out of secondary school as of the second wave of NLTS data collection in 1990.
- Had a parent interview from 1990. (Parents were the only source of information regarding receipt of services. Note that some youth who had no 1987 interview are included here.)

The sample is weighted to represent all youth in the United States who met the first two criteria (see Javitz and Wagner, 1993, for more details of NLTS samples and weighting). Although the exact characteristics of that population are not known because of attrition of youth from the sample, a reasonable approximation was obtained using the weighted characteristics of youth with 1987 interviews whose secondary school enrollment status as of 1990 *was* known (that is, youth who had 1990 interviews or who had no 1990 interviews but already left school as of 1987). The sample of 5,052 youth who met all three criteria enumerated above was weighted to match those youth in terms of primary disability category, gender, ethnic background, and household income. Thus, data tables and figures in this report include estimates for the national population of youth with disabilities overall and for youth with each federal disability classification. The sample sizes in the tables are the unweighted number of cases on which weighted estimates are based.

Figure 2-1 shows the disability categories of the youth represented by the main sample after weighting. These are the primary disability classifications of the youth as reported by their schools or school districts during the 1985-86 school year. Fifty-eight percent of youth were classified as learning disabled, 23% as mentally retarded, and 11% as seriously emotionally disturbed. Other disabilities were low-incidence conditions, representing from less than 1% (visually impaired, hard of hearing) to 3% (speech impaired) of the total population of youth with disabilities. Because of the small number of youth classified as "deaf/blind" in the sample (n=69) and the small percentage of such youth in the population (0.2%), youth with this classification have been included with youth classified as "multiply handicapped" in this report. This NLTS-weighted distribution of disabilities is very close to the actual distribution reported for youth age 14 and older who were served by special education and exited the education system in 1989-90, deviating less than 4 percentage points for any given disability (U.S. Department of Education, 1992, p. 34).

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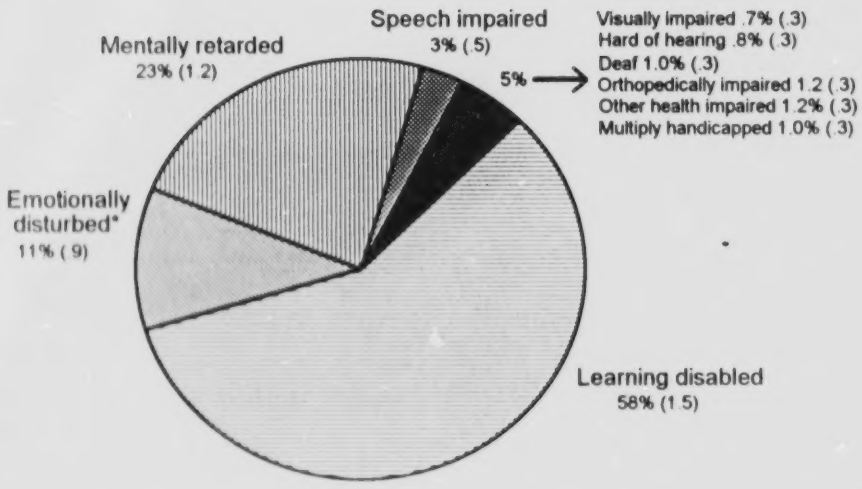
* Actual sample sizes vary with the number of "don't know" responses, which are omitted, and the skip logic of the questions (e.g., the analyses of methods of seeking service only apply to the sample of youth with a need for service that was not being met).



* In the text of this report, the complete name for this federal special education category, "seriously emotionally disturbed," is used. Because of limited space, the term is shortened to "emotionally disturbed" in tables and figures.

Standard errors are in parentheses.

FIGURE 2-1 PRIMARY DISABILITY CATEGORY OF YOUTH WITH DISABILITIES WHO WERE OUT OF SCHOOL IN 1990

Table 2-1 shows other selected characteristics of the weighted sample used in this report. About two-thirds of youth were reported by parents to have high functional levels, 21% medium functional levels, and 11% low functional levels (as measured by the community living skills index; see page 15 for a description of this variable). On average, youth were 22 years old when interviews were conducted. More than two-thirds were male, almost one-third were members of minority groups, and almost 40% came from households whose heads did not have a high school diploma. These rates are higher than those for the student population as a whole (see Marder and Cox, 1991). Although two in three youth had graduated from secondary school, one in four had dropped out of school (including those who had been suspended or expelled and did not return to school), and 1 in 12 had left school after reaching the maximum age.† About 9% were attending postsecondary schools, a rate much lower than for youth without disabilities (see Marder, 1992).

† With the exception of secondary school completion status, these figures are similar to those published in other NLTS reports. Secondary school completion status in the weighted sample used in this report differs from that published in other NLTS reports in that this sample contains about 10 percentage points more graduates and fewer dropouts. This difference most likely results from greater attrition of dropouts than of graduates or ageouts from the sample between 1987 and 1990. On the other hand, these figures are similar to those reported in the Fourteenth Annual Report to Congress based on exit data submitted to the U.S. Department of Education by states (U.S. Department of Education, 1992).

Table 2-1

CHARACTERISTICS OF YOUTH WITH DISABILITIES WHO WERE IN SECONDARY SCHOOL IN 1985-86 AND WERE OUT OF SCHOOL IN 1990

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage whose functional level was:											
High	68.4	82.2	75.6	76.0	34.2	48.4	5.9	7.5	29.5	21.9	67.0
	(1.5)	(1.9)	(2.8)	(3.3)	(2.5)	(3.0)	(1.5)	(1.5)	(3.2)	(3.6)	(3.3)
Medium	20.9	15.2	18.3	17.1	35.4	31.0	30.6	34.2	37.4	23.1	16.3
	(1.3)	(1.8)	(2.5)	(2.9)	(2.5)	(2.8)	(2.9)	(2.7)	(3.4)	(3.7)	(2.6)
Low	10.8	2.6	6.1	6.9	30.5	20.6	63.6	58.3	33.1	55.0	16.6
	(1.0)	(.8)	(1.6)	(2.0)	(2.4)	(2.4)	(3.0)	(2.8)	(3.3)	(4.4)	(2.6)
n	4,527	701	409	298	606	497	464	580	377	235	360
Average age at interview	21.5	21.3	21.1	21.1	22.0	21.2	21.8	21.4	21.4	21.2	22.8
	(.1)	(.1)	(.1)	(.1)	(.1)	(.1)	(.1)	(.1)	(.1)	(.2)	(.1)
n	5,052	779	454	331	686	545	517	663	420	269	388
Percentage male	69.6	75.2	75.0	62.7	57.6	58.0	53.2	53.4	51.8	53.6	58.5
	(1.4)	(2.0)	(2.7)	(3.6)	(2.5)	(2.8)	(3.1)	(2.6)	(3.3)	(4.1)	(3.3)
n	5,025	776	450	327	680	544	514	662	417	268	387
Percentage whose ethnic background was:											
White	68.8	71.6	72.8	53.4	65.1	58.5	55.5	53.4	54.1	54.1	62.1
	(1.5)	(2.2)	(2.9)	(3.8)	(2.5)	(3.0)	(3.1)	(2.8)	(3.4)	(4.3)	(3.4)
African American	21.5	18.4	20.7	29.1	28.2	28.1	25.5	31.7	22.7	18.4	24.4
	(1.3)	(1.9)	(2.6)	(3.5)	(2.4)	(2.7)	(2.7)	(2.6)	(2.9)	(3.3)	(3.0)
Hispanic	7.2	7.1	5.1	13.8	4.9	10.7	15.6	11.7	20.1	25.3	11.9
	(.8)	(1.3)	(1.4)	(2.7)	(1.1)	(1.9)	(2.3)	(1.8)	(2.8)	(3.7)	(2.2)
Other	2.5	2.9	1.4	3.7	1.8	2.8	3.3	3.1	3.2	2.2	1.7
	(.5)	(.8)	(.8)	(1.5)	(.7)	(1.0)	(1.1)	(1.0)	(1.2)	(1.3)	(.9)
n	4,600	710	411	300	611	505	472	588	390	246	367
Percentage with head of household whose educational level was:											
Less than high school	37.3	34.3	34.1	43.4	46.6	31.5	35.4	38.4	32.2	33.2	38.1
	(1.5)	(2.3)	(3.1)	(3.9)	(2.6)	(2.8)	(2.9)	(2.7)	(3.2)	(4.1)	(3.5)
High school graduate	38.1	40.4	34.3	29.3	36.2	36.8	35.5	34.5	33.9	31.8	35.8
	(1.5)	(2.4)	(3.1)	(3.5)	(2.5)	(2.9)	(2.9)	(2.6)	(3.3)	(4.1)	(3.5)
Some college/ college degree	24.6	25.3	31.6	27.3	17.2	31.7	29.2	27.1	33.9	35.0	26.1
	(1.4)	(2.1)	(3.0)	(3.5)	(2.0)	(2.8)	(2.8)	(2.5)	(3.3)	(4.2)	(3.2)
n	4,596	709	413	296	605	515	485	602	389	242	340
Percentage who left high school by:											
Graduating	66.6	68.8	51.2	70.3	65.4	83.1	82.8	82.2	82.7	66.5	54.0
	(1.4)	(2.1)	(3.1)	(3.4)	(2.4)	(2.2)	(2.2)	(2.0)	(2.5)	(3.9)	(3.4)
Aging out	8.1	6.3	4.7	5.6	13.9	6.7	2.7	10.5	8.5	8.8	33.3
	(.8)	(1.1)	(1.3)	(1.7)	(1.7)	(1.4)	(1.0)	(1.6)	(1.8)	(2.3)	(3.2)
Dropping out	25.3	24.9	44.0	24.1	20.7	10.2	14.5	7.2	8.8	24.7	12.7
	(1.3)	(2.0)	(3.1)	(3.1)	(2.0)	(1.7)	(2.1)	(1.4)	(1.9)	(3.5)	(2.2)
n	5,049	779	454	330	686	545	517	662	419	269	388

Table 2-1 (concluded)

CHARACTERISTICS OF YOUTH WITH DISABILITIES WHO WERE IN SECONDARY SCHOOL IN 1985-86 AND WERE OUT OF SCHOOL IN 1990

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage currently attending postsecondary school	9.2	10.3	8.8	20.6	1.9	31.6	25.6	22.1	22.5	26.5	3.6
	(.9)	(1.5)	(1.8)	(3.1)	(.7)	(2.7)	(2.7)	(2.2)	(2.9)	(3.8)	(1.3)
n	4,736	724	420	310	647	524	487	623	392	249	360
Percentage out of secondary school:											
1 year or less	17.2	17.5	14.0	20.9	16.0	23.1	21.2	16.4	20.1	22.3	29.2
	(1.2)	(1.8)	(2.3)	(3.1)	(2.1)	(2.5)	(2.5)	(2.2)	(2.8)	(3.6)	(4.2)
1 to 2 years	18.3	17.3	17.3	18.7	21.3	23.7	20.4	18.7	22.7	18.7	20.9
	(1.2)	(1.8)	(2.5)	(3.0)	(2.3)	(2.5)	(2.4)	(2.1)	(2.9)	(3.3)	(3.7)
2 to 3 years	20.0	20.2	17.1	19.6	21.1	16.2	23.0	19.2	16.2	21.0	17.8
	(1.3)	(1.9)	(2.5)	(3.1)	(2.3)	(2.2)	(2.6)	(2.1)	(2.6)	(3.5)	(3.5)
3 to 4 years	22.7	21.7	27.9	23.6	23.9	20.2	18.9	20.2	21.5	21.2	13.8
	(1.4)	(2.0)	(.9)	(3.3)	(2.4)	(2.4)	(2.4)	(2.2)	(2.9)	(3.5)	(3.2)
More than 4 years	21.7	23.3	23.6	17.2	17.7	16.8	(16.4	22.5	19.5	16.8	18.3
	(1.3)	(2.1)	(2.8)	(2.9)	(2.2)	(2.2)	(2.2)	(2.3)	(2.8)	(3.2)	(3.6)
n	4,392	711	404	301	518	508	497	617	377	248	211

Standard errors are in parentheses.

Each disability category differs somewhat from the others in its makeup, a fact that readers should keep in mind as they interpret results; that is, differences between disability categories may relate to differences between youth in those categories other than their disabilities. For example, among youth classified as learning disabled or seriously emotionally disturbed, three-quarters were males. In contrast, males and females were about equally represented among youth classified as hard of hearing, deaf,* orthopedically impaired, or other health impaired. There were relatively more minority youth among youth classified as speech impaired, visually impaired, hard of hearing, deaf, orthopedically impaired, or other health impaired than among youth with other classifications. Youth classified as speech impaired or mentally retarded were more likely than those with most other classifications to come from families whose household heads were less well educated.

* For many analyses in this report, the categories hard of hearing and deaf have been combined into a category called "hearing impaired." This has been done only when youth in the two categories did not differ significantly regarding the outcome being analyzed. When differences between the two groups existed, the categories are shown separately.

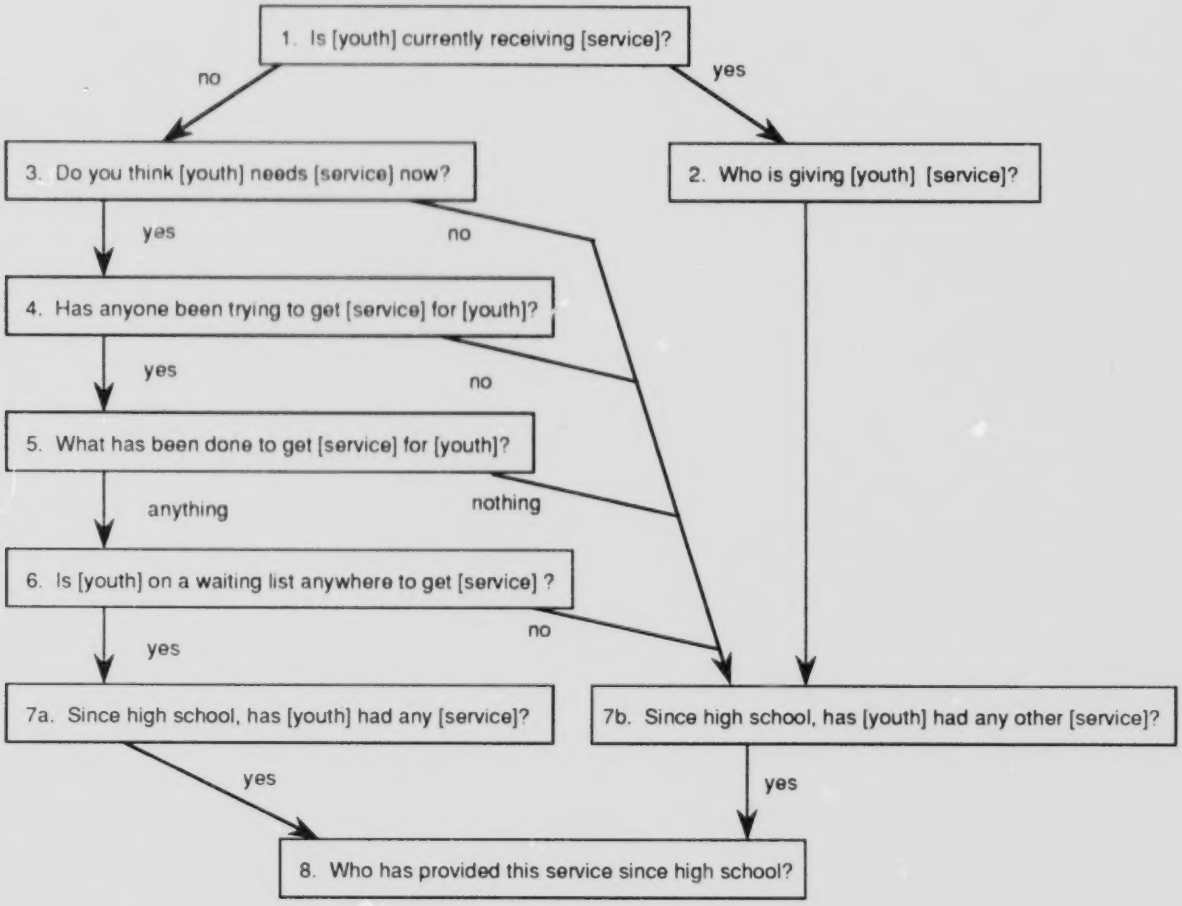
Furthermore, secondary school completion status and postsecondary enrollment status varied substantially among youth with different disability classifications. Compared with youth with disabilities as a group, youth classified as seriously emotionally disturbed were much more likely to have dropped out (44% vs. 25%, $p<.001$), but much less likely to be attending postsecondary schools (2% and 4% vs. 9%, $p<.001$). Youth classified as mentally retarded or multiply handicapped were much more likely to have stayed in school until they reached the age limit ("aged out"; 14% and 33% vs. 8%, $p<.01$). Youth classified as visually impaired, hard of hearing, deaf, or orthopedically impaired had the highest percentages of graduates. More than 80% of youth with these classifications graduated, compared with 67% of youth with disabilities overall ($p<.001$). Youth classified as visually impaired, hard of hearing, or other health impaired were most likely to attend postsecondary schools.

Youth represented in this report had been out of secondary school up to 5 years. About one-fifth of them had been out of school less than 1 year, between 1 and 2 years, between 2 and 3 years, etc. With the exceptions of youth classified as visually impaired or multiply handicapped, who tended to have been out of school for a shorter duration than other youth, the distribution of time out of school did not differ significantly between disability categories.

Measuring Support Services

Results reported here were developed from a series of questions to parents about each service or placement. Because youth in the sample were out of secondary school and many were living away from their parents, the youth themselves were the preferred respondents for most of the rest of the interview. However, pretests of the interview showed that youth often were not accurate respondents regarding their receipt of services. Thus, although the remainder of the interview was conducted with youth if they were able to respond for themselves by telephone, or with parents if youth were not able to respond, all questions regarding services were always asked of parents.

Questions regarding the five services had the same logic:


1. Is [youth] currently receiving [service]?
no
yes
3. Do you think [youth] needs [service] now?
2. Who is giving [youth] [service]?
yes
no
4. Has anyone been trying to get [service] for [youth]?
yes
no
5. What has been done to get [service] for [youth]?
anything
nothing
6. Is [youth] on a waiting list anywhere to get [service] ?
yes
no
7a. Since high school, has [youth] had any [service]?
7b. Since high school, has [youth] had any other [service]?
yes
yes
8. Who has provided this service since high school?

For four of the five services (life skills training or occupational therapy; help from a tutor, reader, or interpreter; personal counseling or therapy; and physical therapy or mobility training), need was measured by a parent's affirmative answer to either question 1 or 3, and receipt was measured by an affirmative answer to question 1. Providers of services were taken from both current and past providers (questions 2 and 8). Attempts to arrange for the service and method of search were taken from questions 4 and 5, respectively. Whether youth were on waiting lists was measured by question 6.

The logic of measurement of need for and receipt of the fifth service, vocational assistance, followed the same pattern as for the other four services; however, information from several other survey questions also was used. Specifically, youth were coded as receiving vocational assistance if:

- The parent answered yes to the question "Is [youth] now receiving career counseling, help in finding a job, training in job skills, or vocational education?" and, when asked to enumerate the specific types of services the youth was receiving, indicated that the youth was not receiving only basic skills training, or
- The parent indicated that the youth had received services from the Vocational Rehabilitation Agency, and that those services included:
  - Career counseling or guidance
  - Training in specific job skills, for example car repair, food service.
  - Help with finding a job or learning how to look for one, or
- The parent or the youth indicated that the youth was currently enrolled in a postsecondary vocational school or in a 2-year college pursuing a vocational track.

Whereas all parents were asked questions regarding vocational assistance, life skills training, help from a tutor, reader, or interpreter, and personal counseling, questions regarding physical therapy were asked only of parents whose child had a disability classification other than learning disabled, seriously emotionally disturbed, speech impaired, or hard of hearing. Thus, only youth whose disability classification was mentally retarded, deaf, orthopedically impaired, other health impaired, or multiply handicapped were included in the analyses regarding physical therapy.

Questions regarding supervised living arrangements and activity center programs followed a slightly different logic than questions regarding other services. Because these are placements rather than services, a youth's need for them was considered difficult to ascertain. Had parents been asked whether youth needed such placements, answers might have reflected as much the parents' situations and needs (e.g., not being able to cope with a youth living at home) as the youths'. Because the meaning of parents' responses would have been unclear, parents were not asked questions regarding youths' need for these placements.

Questions regarding supervised living arrangements and activity center programs were asked only of subsets of parents. All parents were asked where youth were living, and current residence in a supervised living arrangement was measured by that question. However, other questions regarding supervised living arrangements were asked only of parents of youth who:

- Had a disability classification (primary or secondary) other than learning disabled, speech impaired, or hard of hearing, and
- Were not currently residing and had not resided in a college dormitory, a military barracks, alone, or with a spouse in the preceding year.

Parents were asked questions regarding activity centers only if their son or daughter:

- Had a disability classification (primary or secondary) other than learning disabled, speech impaired, or hard of hearing, and
- Was classified as moderately or severely mentally retarded, multiply handicapped, deaf/blind, physically impaired, or sensory impaired, and
- Was not currently residing in an institution, college dormitory, or military barracks.

Youth not meeting these criteria were assumed not to be participants in activity center programs.

Parents as Respondents

Parent reports are somewhat controversial as sources of information about services. In this report, four main types of analyses are reported: need for services, receipt of services, provider of services, and seeking of services. Regarding service need, there are some cases in which need for a particular service is clear (e.g., a youth either does or does not need a secondary source of oxygen). However, in most cases a perception of need is subjective, depending partly on aspirations and expectations for a youth. For example, if one does not aspire for a youth to work, then one does not feel that the youth needs vocational assistance. Thus, ideas of a youth's "need" for most services are likely to differ between assessors. A parent's opinion concerning a son's or daughter's need for a particular service is no less valid than those of other individuals.

However, parent reports may be somewhat more problematic regarding receipt of services, service providers, and service seeking, all of which are factual rather than subjective. There is some evidence that parents are not always accurate reporters of services received by their adult children. For example, a recent NLTS substudy found that Vocational Rehabilitation (VR) had no case files for at least 25% of youth who were reported by parents to have received services from that agency (Wine, Hayward, and Wagner, 1993). Such discrepancies may reflect parents' lack of knowledge regarding youths' receipt of services or parents' lack of knowledge of the source of a service. This may be a particular problem with some services obtained through VR or other agencies that often arranged for or even funded services that actually were provided by other agencies.

Nevertheless, at the time of the 1990 interview, the vast majority of parents appear to have been in a relatively good position to know about services their children were receiving. About 60% of youth in the sample (unweighted) were living with their parents, and another 30% were in contact with their parents at least weekly, according to parent reports. Although thorough checks on the validity of parent reports cannot

be made with current NLTS data, we tested the data for the following logical inconsistencies: parent reports that youth were receiving vocational assistance from employers when the youth indicated they were not employed, and parent reports that youth were receiving vocational assistance from a 2-year or 4-year college or a vocational or trade school when they were not enrolled in those types of schools. Of all parent reports that youth were receiving vocational assistance, only 1% reported that youth were receiving vocational assistance from an employer when the youth indicated that they were not currently employed, and only 4% indicated that youth were receiving vocational assistance from a vocational or trade school when the youth indicated that they were not enrolled in such a school. Inconsistencies were somewhat more common regarding colleges. Among youth who were reported to be receiving vocational assistance, 11% of parents reported that the youth were receiving such assistance from colleges when the youth indicated that they were not currently enrolled in a college. Although these tests do not prove the accuracy of parent reports, together with the amount of contact between parents and youth, they suggest that parents' reports are not subject to serious inaccuracies regarding service receipt.

Combining Data for Youth Out of School for Different Lengths of Time

Youth represented in this report varied in the length of time they had been out of school; some had been out of school less than 1 year, while others had been out of school up to 5 years, as discussed earlier and shown in Table 2-1. If length of time since leaving school is associated with other variables of interest, combining data for youth who had been out of school for different lengths of time could lead to spurious findings.

To test for potential problems, we conducted analyses of need for and receipt of each service examined in this report classifying youth by number of years since leaving school in addition to other classification variables (e.g., gender, ethnic background). With one exception, no systematic differences were found in need for or receipt of services by number of years out of school.* Hence, we have confidence that the combining data for youth who had been out of school varying lengths of time does not obscure important aspects of service need or receipt.

The Analyses

In Section 3, analyses of the five services for which need was measured begin by examining current need for the service and then describe current receipt of the service among youth who were reported to need it. Current need for each service among all youth with disabilities, regardless of need, also is shown in tabular form for the reader's

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* The exception was that need for vocational assistance was found to decline slightly over time among youth classified as learning disabled or hearing impaired.

information but is not discussed in the text. Next, we show receipt of a service from various types of providers among youth who received the service since secondary school. For vocational assistance and tutoring services, various other types of analyses also are presented, as appropriate (e.g., the specific type of vocational assistance received, whether employed youth were more or less likely than nonemployed youth to be receiving vocational assistance). Section 4 then examines the extent to which parents indicated that someone was seeking services for youth who were reported to need them but were not receiving them, and how services were being sought.

Because need for supervised living arrangements and activity center programs was not measured, as discussed earlier, analyses of these placements in Section 3 begin by examining how many youth were currently placed in these settings among all youth with disabilities *regardless of need*. We then examine duration of placement for youth who had been in these settings at all since secondary school. Section 4 discusses all youth with disabilities (regardless of need) whose parents indicated that someone was seeking these placements for their sons or daughters.

Results are reported for youth with disabilities overall and by primary disability category* (except where sample sizes are too small). Youth also are classified by their level of community living skills. Other variables used for classification in selected analyses are youth's gender, ethnic background (white/African American/ Hispanic, or, in some cases, nonminority/minority), head of household's educational level (did not complete high school/high school graduate/attended college), and the youth's secondary school completion status (graduated/aged out/dropped out).

Youths' level of community living skills is used as a proxy for their functional level. This community living skills variable is constructed from an index created by summing parents' reports of how well their children, "on their own, without help," could (1) go to a library or community swimming pool, (2) use public transportation, (3) buy clothes at a store, and (4) arrange a trip to go out of town. Parents who responded that youth had no opportunity to do a particular activity were asked to estimate how well they could do the activity if they had the chance. Values for each question range from 1 to 4. Thus, the summative index ranges from 4 to 16. For the present analyses, a 3-category variable was created, with youth whose scores were 4-8 assigned the value of "low," youth whose scores were 9-13 assigned the value of "medium," and youth whose scores were 14-16 assigned the value of "high."

Gender and ethnic background were chosen as classification variables on the basis of past research findings that various demographic groups have different rates of applying

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* Disability categories were those assigned by schools or school districts when youth were still students. Because of small sample sizes, the deaf and hard of hearing categories have been combined into a single hearing impaired category. Similarly, multiply handicapped refers both to youth with that disability classification and to youth who are deaf/blind.

for services and of being accepted for services. For example, Harrison and Wayne (1987) found that women with disabilities were less likely than men to apply for Vocational Rehabilitation services, but were more likely to be accepted for services.

Head of household's educational level may be associated with a variety of service outcomes. Parents with high levels of education may have had higher aspirations for their children than parents with less education. Thus, they may have been more likely to report needs for services. Furthermore, parents with more years of formal education may have been better able to negotiate complex service delivery systems successfully and advocate more powerfully for their children. Thus, youth with highly educated parents may have been more likely to receive the services they needed, and parents of youth with unmet needs may have been more likely to be seeking services.

Partly because of its association with severity of disability, secondary school completion status may be associated with need for services. For example, to the extent that youth who left secondary school by aging out were more severely disabled than other youth, they may have been in greater need of particular services, such as life skills training/occupational therapy and physical therapy/mobility training. In contrast, dropouts, whose disabilities are typically less severe than those of ageouts, may have been less likely to need life skills training. However, as they experienced limited employment options because of their lack of education and training, they may have had greater need for vocational assistance.

To the extent that graduates had higher aspirations than dropouts or ageouts, they may have had higher reported need for particular services. For example, graduates who were enrolled in college or wished to attend college might have had greater reported need for tutoring. On the other hand, parents of graduates who were pursuing academic studies in postsecondary schools may have been unlikely to report a need for job training (vocational courses in postsecondary schools are counted as job training).

Secondary school completion status also may be associated with receipt of services. To the extent that dropping out of school signals an inability or unwillingness to participate in a structured program, dropouts who needed services may not have been able or willing to receive them. Furthermore, many dropouts did not have the benefit of transition planning that many youth who stayed in school had.

The tables and figures in this report present two types of statistics: means and standard errors. Most variables in the analyses are yes/no variables. The percentages shown in the tables indicate the percentages of parents that responded yes to a particular question (e.g., "Is your son/daughter receiving personal counseling or therapy now?"). Percentages are weighted to represent the national population of youth with disabilities and youth in each disability category. However, the percentages are only estimates of the actual percentages that would be obtained if all youth with disabilities had been included

in the study. These estimates vary in how closely they approximate the true measures that would be derived from a study of all youth. To aid the reader in determining the precision of the estimates, for each percentage and mean, the tables present the approximate standard error and unweighted number of cases on which the statistic is based.

Significant differences between groups of youth are indicated in the text by probability values (e.g., $p<.05$). Such values indicate the number of chances in 100 that the difference would be found by chance (e.g., $p<.05$ indicates that the difference would be found by chance fewer that 5 times in 100). Readers also may want to compare percentages for different subgroups to determine whether they are statistically significant. To calculate whether the difference between percentages is statistically significant with 95% confidence, the squared difference between the two percentages of interest is divided by the sum of the two squared standard errors and then the square root is taken. If the result is larger than 1.96, the difference is significant. Presented as a formula, a difference in percentages is statistically significant at the .05 level if:

$$\sqrt{\frac{(P_1 - P_2)^2}{SE_1^{\,2} + SE_2^{\,2}}} > 1.96$$

where P_1 and SE_1 are the first percentage and its standard error and P_2 and SE_2 are the second percentage and its standard error.

The standard errors for the NLTS were computed using procedures that differ from standard calculation routines. These routines are explained fully in the Appendix.

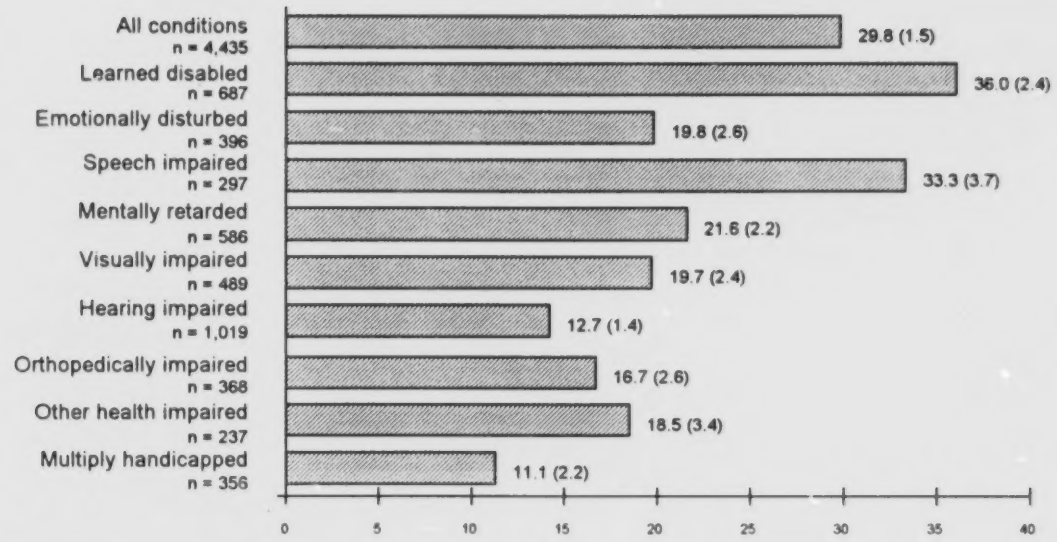
3 NEED FOR AND RECEIPT OF SERVICES

Five broad types of services are covered in this report: vocational assistance; life skills training; help from a tutor, reader, or interpreter; personal counseling or therapy; and physical therapy/mobility training. These types of services were chosen because they were the most widely used. Some are more applicable to youth with specific kinds of disabilities (e.g., physical therapy for youth with orthopedic impairments), whereas others are more broadly applicable to youth with a variety of disabilities or no identified disabilities at all (e.g., personal counseling or therapy). However, Will (1984) recognized that some youth who are served by special education while in secondary school may not need these or any kinds of special help or services after secondary school. We begin this chapter by examining the extent to which youth with disabilities were reported by parents *not* to need any of the five services investigated by the NLTS. Subsequent sections of the chapter focus on each service separately, presenting findings regarding both reported need and receipt of services. The final two sections of the chapter consider youths' participation in supervised living arrangements and in programs in activity centers.

Youth Reported Not to Need Services

About 30% of youth who had been in special education during secondary school were reported by parents not to be receiving and not to need any of the five services investigated by the NLTS when they had been out of school up to 5 years (Figure 3-1). Compared with youth with disabilities overall, these youth were generally doing well. Although only about 6% were attending postsecondary schools (a percentage comparable to that for youth with disabilities overall), almost 80% were employed, and 42% were living independently (vs. 56% and 32%, respectively, among youth with disabilities overall, $p<.01$ for both differences).

Youth who were reported not to be receiving or need services included youth from every disability category. However, lack of need was not the norm for any category of youth. About one-third of youth classified as learning disabled or speech impaired reportedly needed none of the five services. In contrast, only about 20% of youth classified as seriously emotionally disturbed, mentally retarded, visually impaired, or other health impaired and fewer than 15% of youth classified as hearing impaired or multiply handicapped reportedly needed none of the five services investigated.



Standard errors are in parentheses.

Figure 3-1 PERCENTAGE OF YOUTH REPORTED NOT TO NEED ANY SERVICES, BY PRIMARY DISABILITY CATEGORY

These figures are slightly higher than the percentages of youth who were anticipated not to need services after exiting secondary school in 1985-86 according to state education agencies (SEAs; U.S. Department of Education, 1988). SEAs estimated that 24% of all youth exiting special education in that year would need no special services. However, NLTS and SEA estimates are more disparate for youth with some disability classifications than others. For example, SEAs estimated that no services would be needed by 29% of exiters classified as learning disabled, compared with 36% based on NLTS parent reports. On the other hand, estimates for youth with other disability classifications are similar; SEAs estimated that 33% of those classified as speech impaired and 11% of those classified as multiply handicapped or deaf/blind would need no services, figures comparable to those of the NLTS.

The difference in estimates may result from the broader range of services included in SEA estimates—some youth who did not need the five services included in NLTS analyses may have needed other services included in SEA estimates. The discrepancies also may be related to the difference in the amount of time youth had been out of school. SEA reports referred to the period of time immediately following exit from school. In contrast, youth represented in the NLTS had been out of school up to 5 years. Many of them might have received services after secondary school and no longer needed special help. Differences in perceptions of need based on different aspirations and expectations between schools (the source of SEA data) and parents (the source of NLTS reports) also may account for some of the discrepancies.

Not surprisingly, not needing services was strongly associated with youth's level of functioning, as measured by the community living skills index. Whereas only about 8% of youth with low functional levels and 13% of those with medium functional abilities were reported not to need any services, almost 40% of high-functioning youth were reported not to need any services ($p<.001$).

Vocational Assistance

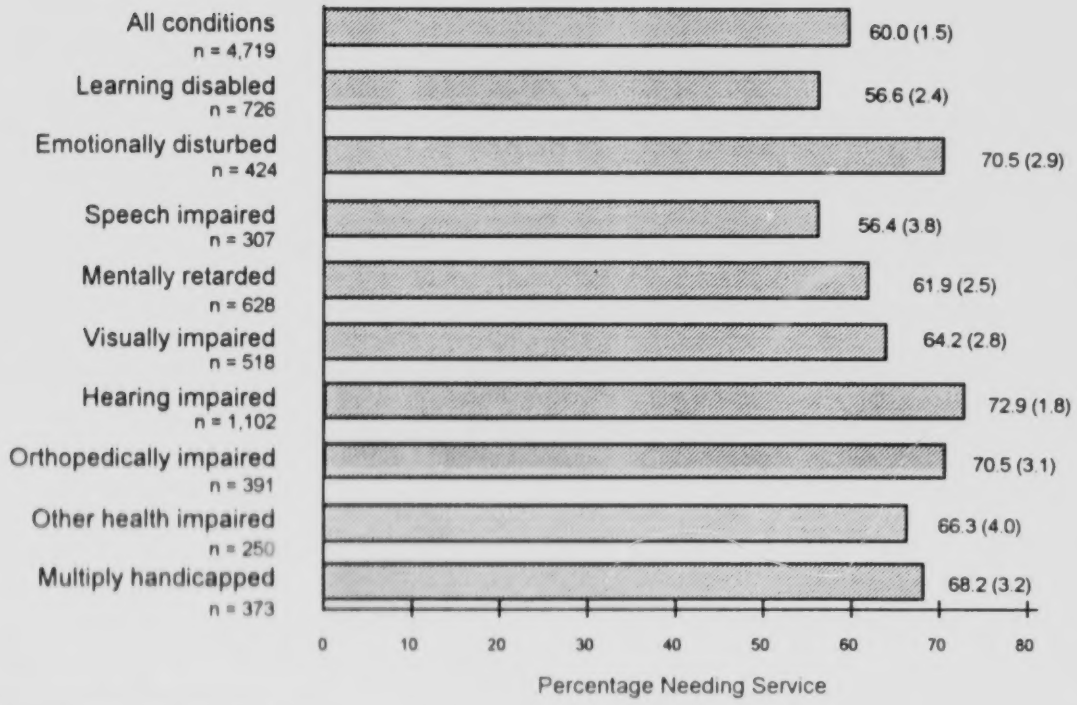
Among youth in the general population, the late teens and early twenties tend to be a period of employment instability. Dubbed the "floundering period" (cited by Osterman, 1980), it is characterized by frequent job hopping, loss of jobs, and periodic spells of joblessness as youth learn about their labor market opportunities, develop their work skills, and define their vocational interests (Freedman, 1969; Osterman, 1980).

Whereas the transition to the world of work is difficult for many youth in the general population, early follow-up and follow-along studies suggest that it is even more so for many youth with disabilities (Hasazi, Gordon, and Roe, 1985; Mithaug, Horiuchi, and Fanning, 1985). Low employment rates and wages of youth with disabilities found by such studies pointed to the need for further vocational preparation and more intentional vocational placement services for many young people leaving school. Legislation has increasingly addressed the need for vocational assistance, culminating with provisions of the Rehabilitation Act Amendments of 1992, which mandate transition services, change eligibility criteria for services, and widen the types of services provided under the Act.

How many youth who were served by special education during secondary school needed vocational assistance in the following years, and to what extent were their needs met? Were needs for vocational assistance and the extent to which they were met greater for some youth than for others? What types of vocational assistance did youth receive and who were the principal providers? This section addresses each of these questions, using parents' answers to a series of questions regarding "career counseling, help in finding a job, training in job skills, or vocational education."

Current Need for Vocational Assistance

Disability-related characteristics. Among youth with disabilities overall, 60% needed vocational assistance at the time of the 1990 interview, according to parent reports (Figure 3-2). At least 50% of youth with each disability classification were reported to need vocational assistance. Reported need was particularly high among youth classified as seriously emotionally disturbed (70%), hearing impaired (73%), orthopedically impaired (70%), or multiply handicapped (68%, $p<.01$ for comparisons with youth with disabilities as a group).



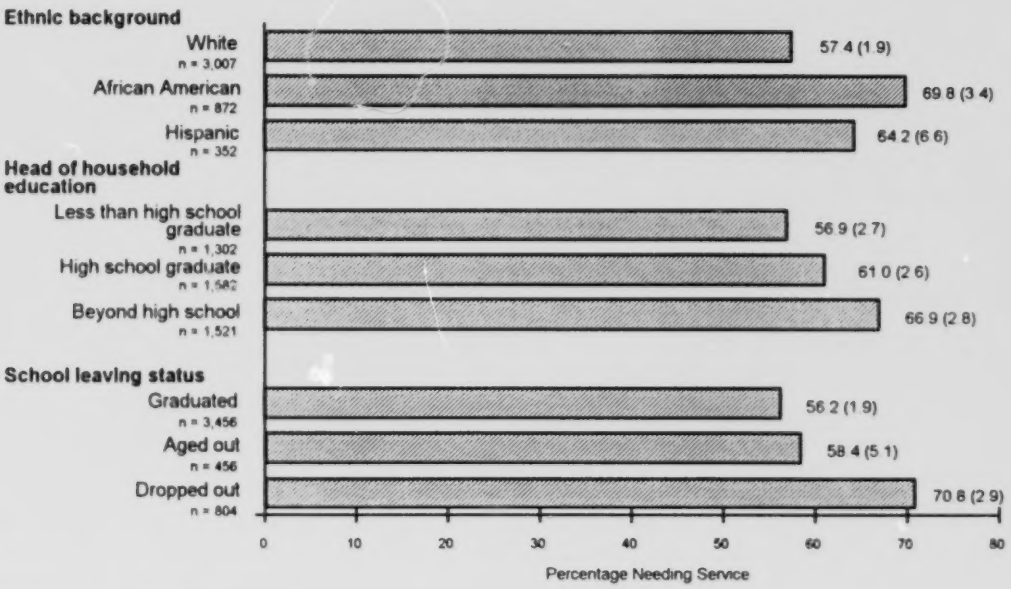
Standard errors are in parentheses.

FIGURE 3-2 CURRENT NEED FOR VOCATIONAL ASSISTANCE, BY PRIMARY DISABILITY CATEGORY

Regardless of their functional level, as measured by the community living skills index, many youth reportedly needed vocational assistance. For example, among youth with low levels of functioning, 65% were reported to need vocational assistance, and among those with medium skills; 77% were reported to need services ($p<.05$).

Individual and household characteristics. The extent of reported need for vocational assistance did not differ significantly between males and females, despite well-documented gender differences in labor market experiences; it did differ for youth with different ethnic backgrounds, head of household's educational level, and school completion status. Reported need for vocational assistance was higher among African American than white youth (Figure 3-3; 70% vs. 57%, $p<.01$), among youth whose parents had gone beyond high school compared with those whose parents were high school dropouts (67% vs. 57%, $p<.05$) and among youth who had dropped out of secondary school compared with those who had graduated (71% vs. 56%, $p<.01$). These differences in need may relate in part to variations in secondary school course-taking. The NLTS has found that African American youth tended to earn fewer credits in occupationally specific

vocational courses while in secondary school and were less likely to take concentrations of courses in specific vocational areas (Blackorby, 1993). Similarly, youth who dropped out of school early tended not to take occupationally specific courses, which are typically offered only in the later years of high school. Thus, not having acquired as many specific job skills as their counterparts may contribute to the greater reported need among African American youth and secondary school dropouts.



Standard errors are in parentheses.

FIGURE 3-3 NEED FOR VOCATIONAL ASSISTANCE, BY SELECTED YOUTH CHARACTERISTICS

In addition, even among youth without disabilities, African American youth and high school dropouts are at a relative disadvantage in the labor market (Arrow, 1972; Spence, 1974), and their unemployment rates tend to be higher than those of white youth and high school graduates. Thus, there may be a greater felt need for vocational assistance to overcome a relative disadvantage in the labor market.

The higher need for vocational assistance reported for youth with better-educated household heads may reflect higher aspirations and/or expectations of such parents for their offspring. Such an association is supported by previous NLTS findings that parents who had attended college were more likely than parents with lower levels of educational

attainment to express certainty that their son or daughter with a disability would have a paid job in the future (Valdés, Williamson, and Wagner, 1990). Parents with an expectation of paid employment for their children might have been more likely to express need for vocational assistance in helping their children attain that goal.

Employment status. Given that some forms of vocational assistance relate explicitly to helping youth find jobs, one would expect that a perceived need for vocational assistance would be more common for youth who were unemployed than for those who had jobs. Table 3-1 shows that, as expected, reported need for vocational assistance was much higher for youth with disabilities as a whole who were not employed than for youth who were employed (72% vs. 54%, $p<.001$). However, the pattern does not hold for youth with all disability classifications. Having a job made little difference in the reported need for vocational assistance among youth classified as speech impaired, mentally retarded, orthopedically impaired, other health impaired, or multiply handicapped.

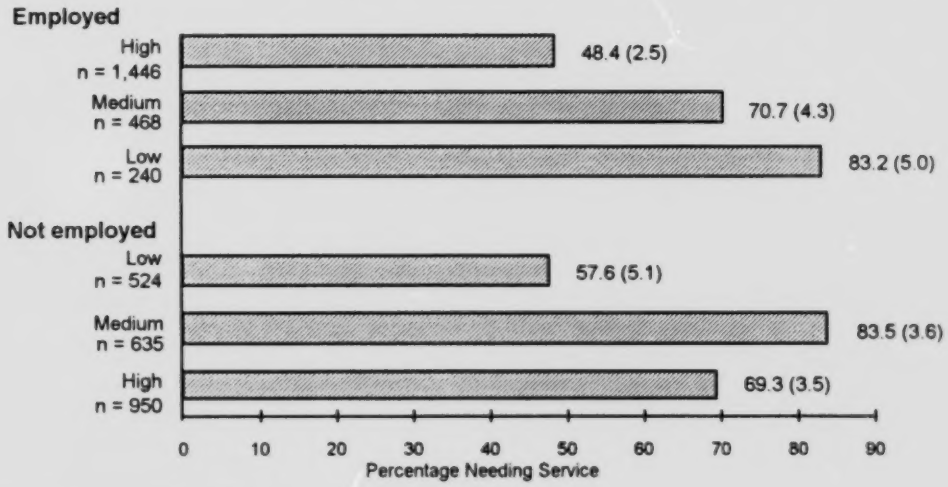
Table 3-1

NEED FOR VOCATIONAL ASSISTANCE, BY EMPLOYMENT STATUS AND PRIMARY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage who were reported to need vocational assistance who were:										
Not employed	72.5	75.5	81.4	61.9	65.4	69.0	79.1	72.9	72.9	65.4
	(2.3)	(4.0)	(4.3)	(6.5)	(3.7)	(3.5)	(2.2)	(3.8)	(5.5)	(4.3)
n	2,235	195	143	98	280	319	616	249	119	216
Employed	54.0	50.3	63.9	54.5	59.9	56.3	63.5	71.7	61.8	76.8
	(2.1)	(2.9)	(4.1)	(4.8)	(3.6)	(5.0)	(3.0)	(5.5)	(6.0)	(5.6)
n	2,244	493	236	192	309	183	459	122	116	101

Standard errors are in parentheses.

The complex interrelationships of disability and employment status vis-à-vis need for vocational assistance are further revealed when need is examined for employed and unemployed youth with different levels of community living skills. Differences in need for vocational assistance are what would be expected for the most part: youth with lower levels of functioning and those who were not employed were reported to have higher levels of need than those with higher levels of functioning and those who were employed (Figure 3-4). The one exception to the pattern concerns low-functioning youth who were not employed. According to the general pattern, they would be expected to have the highest reported need for vocational assistance. However, their reported need for vocational assistance actually was of the lowest of any group of youth (58%).



Standard errors are in parentheses.

Figure 3-4 NEED FOR VOCATIONAL ASSISTANCE, BY EMPLOYMENT STATUS AND COMMUNITY LIVING SKILLS LEVEL

This pattern of reported need may once again suggest the importance of parents' aspirations and expectations in their perception of need for vocational assistance. The surprisingly low level of need reported for nonemployed youth with low functional levels may result from the fact that these youth were so severely impaired that their parents felt that they could not benefit from vocational assistance. In contrast, among youth with medium or high functional levels, vocational assistance is reported as needed more often for youth who were unemployed, presumably as an avenue to the apparently attainable goal of employment.

Current Receipt of Vocational Assistance

As indicated in Section 2 of this report, youth were coded as receiving vocational assistance if a parent indicated that the youth was receiving vocational assistance, was enrolled in a postsecondary vocational school or in a 2-year college and pursuing a vocational track, or was receiving career counseling or guidance, training in specific job skills, or help finding a job or learning how to look for one from a state Vocational Rehabilitation agency. Overall, only about 1 in 3 youth with disabilities who reportedly needed vocational assistance were receiving it at the time of the survey (Table 3-2).*

Table 3-2

CURRENT RECEIPT OF VOCATIONAL ASSISTANCE, BY PRIMARY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage among youth who were reported to need vocational assistance	36.5	33.6	28.4	39.0	43.3	46.7	50.5	42.6	52.5	58.4
	(1.9)	(3.0)	(3.5)	(5.0)	(3.3)	(3.7)	(2.4)	(4.1)	(5.3)	(4.2)
n	3,048	409	293	165	391	321	794	266	160	249
Percentage among youth with disabilities, independent of need	21.9	19.0	20.0	22.0	26.8	30.0	36.8	30.0	34.8	39.8
	(1.3)	(1.9)	(2.5)	(3.2)	(2.3)	(2.7)	(2.0)	(3.1)	(4.1)	(3.4)
n	4,719	726	424	307	628	518	1,102	391	250	373

Standard errors are in parentheses.

Disability-related characteristics. Service receipt varied considerably by disability-related characteristics. Among those needing vocational assistance, a youth's disability classification was strongly associated with his or her likelihood of receiving it. Youth classified as hearing impaired, other health impaired, or multiply handicapped were more likely than youth with disabilities as a group to receive it; about half of youth with hearing or other health impairments and almost 60% of youth classified as multiply handicapped who needed vocational assistance were receiving it ($p<.05$ compared with youth with disabilities overall). In contrast, youth classified as seriously emotionally disturbed who were reported

* In this report, most tables regarding current receipt of services present two groups of figures for each group of youth. The first represents youth who were reported to need the service. The percentages in this set of figures are discussed in the text. The second represents all youth who were served by special education during secondary school, regardless of reported need for the service. These second percentages are presented for the reader's information but are not discussed in the text.

to need vocational assistance were the least likely to receive it; only 28% were receiving vocational services despite having among the highest levels of reported need ($p<.05$ compared with youth with disabilities overall).

A youth's level of functioning, as measured by the community living skills index, also was associated with his or her likelihood of receiving vocational assistance (Table 3-3), with lower-functioning youth being most likely to receive help among youth with reported need. More than half of youth with a low level of functioning who were reported to need vocational assistance were receiving it. In contrast, only about one-third of youth with medium or high levels of functioning were receiving services ($p<.01$).

Table 3-3

CURRENT RECEIPT OF VOCATIONAL ASSISTANCE, BY LEVEL OF COMMUNITY LIVING SKILLS

		High Skills	Medium Skills	Low Skills
Percentage among youth who were reported to need vocational assistance		34.5	32.1	53.5
		(2.6)	(3.6)	(5.0)
	n	1,495	853	514
Percentage among youth with disabilities, independent of need		18.7	24.6	34.7
		(1.6)	(2.9)	(3.7)
	n	2,493	1,132	821

Standard errors are in parentheses.

Individual and family characteristics. Although males and females were about equally likely to need and receive vocational assistance, there were significant differences in service receipt for youth who differed in ethnic background, head of household's education, and school completion status. Minority youth, who were more likely than whites to need vocational assistance, were less likely to be receiving it. Among white youth, about 40% of those who needed vocational assistance were receiving it, whereas only about one-quarter of minority youth were receiving it (Table 3-4; $p<.05$). A similar situation obtained for high school dropouts. Among youth with needs for vocational assistance, 45% of those who had graduated from secondary school and 48% of those who had aged out were receiving services, compared with only 16% of those who had dropped out, despite their higher reported need for help ($p<.05$).

Table 3-4

RECEIPT OF VOCATIONAL ASSISTANCE, BY SELECTED YOUTH CHARACTERISTICS

	Ethnic Background			Head of Household's Educational Level			Secondary School Completion Status		
	White	African American	Hispanic	< High School Graduate	High School Graduate	Beyond High School	Graduated	Aged Out	Dropped Out/ Suspended
Percentage among youth who were reported to need vocational assistance	40.6	27.2	24.1	25.7	38.5	43.5	44.7	47.9	16.0
	(2.4)	(3.9)	(7.3)	(3.1)	(3.3)	(3.6)	(2.5)	(7.0)	(2.7)
n	1,850	640	247	843	1,030	996	2,185	283	579
Percentage among youth with disabilities, independent of need	23.3	19.0	15.5	14.6	23.5	29.1	25.1	28.0	11.3
	(1.6)	(2.9)	(4.9)	(2.0)	(2.2)	(2.7)	(1.6)	(4.7)	(2.0)
n	3,007	872	352	1,302	1,582	1,521	3,456	456	804

Standard errors are in parentheses.

In contrast, youth from households with better-educated heads had higher levels of reported need but were apparently better able to meet that need with higher rates of service receipt. Whereas 38% of youth whose household heads were high school graduates and 43% of those whose household heads had gone to college received the vocational assistance they needed, only 26% of those whose household heads were high school dropouts received it ($p<.05$).

Employment status. Not surprisingly, the extent of receipt of vocational assistance among youth with needs differed by employment status. Whereas unemployed youth were more likely than those with jobs to need vocational assistance, they were less likely than workers to be receiving it. Among youth who were reported to need vocational assistance, 44% of workers were receiving it, compared with 29% of those without jobs (Table 3-5; $p <.001$). Exceptions to this pattern involved youth classified as hearing impaired, orthopedically impaired, or other health impaired, among whom the differences were not statistically significant.

Table 3-5

RECEIPT OF VOCATIONAL ASSISTANCE, BY EMPLOYMENT STATUS AND PRIMARY DISABILITY CATEGORY

Percentage who received vocational assistance	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Not employed	29.1	26.8	22.1	26.2	30.6	40.9	49.2	38.5	52.4	46.3
	(2.7)	(4.7)	(5.0)	(7.7)	(4.4)	(4.5)	(3.1)	(5.0)	(7.3)	(5.7)
	1,592	147	117	57	185	210	480	175	84	137
Employed	43.9	39.4	34.0	46.4	59.9	59.3	54.2	53.0	57.0	77.3
	(2.7)	(4.0)	(4.9)	(6.6)	(4.7)	(6.6)	(3.9)	(7.3)	(7.9)	(5.2)
	1,336	249	134	101	188	102	294	84	70	147

Standard errors are in parentheses.

Types of Vocational Assistance Received

Vocational assistance can include a variety of services and activities. Reflecting this fact, the NLTS asked parents of youth who were receiving vocational assistance whether they were receiving five specific types of vocational assistance: training in specific job skills, training in basic skills, career counseling, ability or interest testing, and help in finding a job.

The form of vocational assistance most commonly received was training in specific job skills (Figure 3-5); almost three-fourths of youth receiving vocational assistance received such training. Somewhat less common were career counseling and testing, which were received by only about half of service recipients. Fewer than half of service recipients received help in finding a job as part of their vocational assistance. It is not surprising that job placement would be less common than some other forms of vocational assistance, in that those who had jobs might still be receiving skills training, for example, but would not be receiving help in finding a job. Slightly more than one-third received training in basic skills.

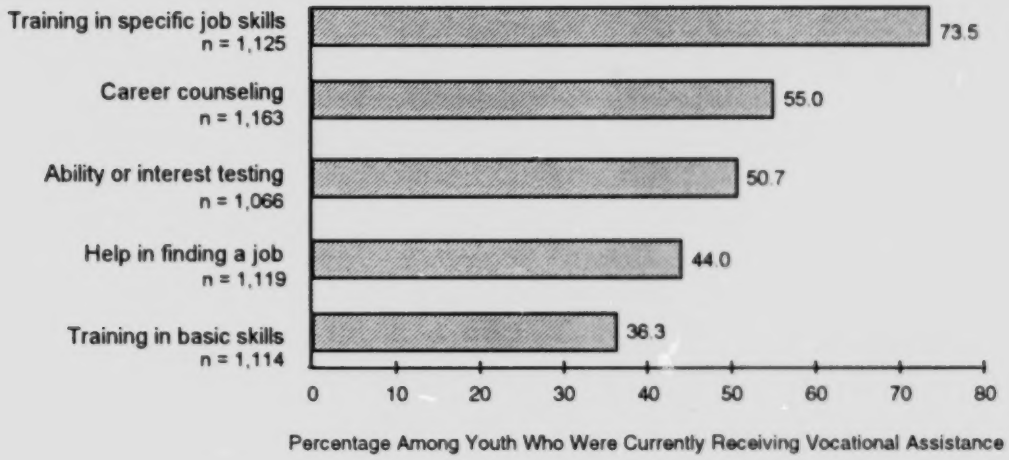


FIGURE 3-5 RECEIPT OF SPECIFIC TYPES OF VOCATIONAL ASSISTANCE

Not all youth received the same types of vocational assistance. Vocational assistance for youth with high community living skills emphasized specific job skills training (Table 3-6; 84%) more than any other service, and relatively few youth received training in basic skills (28%). These high-functioning youth were the most likely to be employed, and their job skills training may have been training received on the job (see the discussion in the following section regarding the role of the employer as a source of vocational assistance).

In contrast, no single type of vocational assistance predominated for medium-functioning youth, although they tended to be more likely than other youth to receive help in finding a job (57% vs. 41% for youth with low community living skills levels $p<.10$ and 38% for youth with high community living skills levels, $p<.05$). Low-functioning youth also received the complete array of services; however, testing was more likely to be a component of their vocational assistance than it was for high-functioning youth (64% vs. 41%, $p<.01$).

Table 3-6

TYPES OF VOCATIONAL ASSISTANCE RECEIVED, BY SELECTED YOUTH CHARACTERISTICS

	Percentage Receiving				
	Testing	Specific Skills	Basic Skills	Career Counseling	Help Finding Job
Community living skills index					
High	40.8	84.0	28.4	46.9	38.4
	(5.2)	(3.7)	(4.7)	(5.1)	(4.9)
n	466	504	489	488	501
Medium	57.1	68.7	40.8	58.5	56.9
	(6.8)	(6.2)	(6.6)	(6.7)	(6.6)
n	305	316	317	309	314
Low	63.7	56.1	48.6	52.5	40.7
	(6.4)	(6.4)	(6.5)	(6.6)	(6.4)
n	268	272	276	270	273
Gender					
Male	48.1	78.4	35.9	52.7	45
	(4.4)	(3.5)	(4.2)	(4.3)	(4.3)
n	642	674	666	664	667
Female	53.9	66.6	36.4	47.4	41.9
	(6.2)	(5.6)	(5.8)	(6.2)	(5.9)
n	394	415	413	400	418
Ethnic background					
White	45.5	74.3	33.9	48.1	40.1
	(4.1)	(3.5)	(3.8)	(4.0)	(3.9)
n	723	755	754	762	751
Minority	69.8	70.5	43.5	72.8	57.9
	(7.3)	(6.8)	(7.5)	(6.6)	(7.4)
n	275	300	290	313	299
Head of household's educational attainment					
< High school graduate	69.9	77.5	55.0	61.1	55.3
	(7.0)	(6.1)	(7.4)	(7.2)	(7.3)
n	212	230	222	226	229
High school graduate	47.0	66.6	28.9	52.2	43.9
	(5.8)	(5.3)	(5.2)	(5.7)	(5.6)
n	363	380	379	386	382
Beyond high school	42.1	78.4	32.5	52.3	40.1
	(5.9)	(4.7)	(5.4)	(5.7)	(5.7)
n	435	457	455	465	451
High school completion status					
Graduated	48.7	75.6	33.2	54.7	42.4
	(4.2)	(3.5)	(3.9)	(4.0)	(4.1)
n	838	884	873	922	881
Aged out	56.1	62.7	46.5	54.0	39.5
	(8.3)	(7.9)	(8.1)	(8.2)	(8.0)
n	145	153	154	154	149
Dropped out/suspended	56.3	71.3	43.5	57.6	56.6
	(9.4)	(8.5)	(9.4)	(9.5)	(9.3)
n	83	88	87	86	89

Standard errors are in parentheses.

There were no significant differences in types of services received by gender or secondary school completion status. Compared with white youth, minority youth* were more likely to receive testing (70% vs. 46%, $p<.01$), career counseling (73% vs. 48%, $p<.01$), and assistance finding a job (58% vs. 40%, $p<.05$) as part of their vocational assistance. However, there were no significant differences in receipt of training in specific skills or basic skills between white and minority youth.

Coming from a household whose head had not completed high school also was associated with the type of services received. Youth whose head of household had not completed high school were more likely than youth whose household head had completed high school to receive testing (70% vs. 47% of those whose household head had completed high school and 42% of those whose household head had attended college, $p<.01$) or training in basic skills (55% vs. 29% and 32%, respectively, $p<.01$). Head of household's educational attainment was not associated with differences in receipt of other types of services.

Sources of Vocational Assistance

The NLTS asked parents to identify current providers of vocational assistance and providers of any such help received since youth left secondary school. The most common source of vocational assistance for youth with disabilities as a group was postsecondary schools (including postsecondary vocational schools, 2-year and 4-year colleges, and universities). One-third of youth who had received vocational assistance after leaving secondary school received it from postsecondary schools (Table 3-7). Agencies serving persons with disabilities (e.g., Developmental Disabilities, United Cerebral Palsy, Lighthouse for the Blind, Lions Blind Centers) or sheltered workshops† provided services to about one-fourth of youth who had received services since secondary school. Relatively few youth had received vocational assistance from their employers (16%) or from a state Vocational Rehabilitation agency (13%).

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* All youth whose ethnicity was not "white" were combined into a "minority" category for this analysis because of small numbers. When analyses were performed with separate categories for African American and Hispanic youth, their services did not differ significantly.

† Parents' open-ended responses regarding providers were coded into categories including "Developmental Disabilities Agency," "Goodwill/sheltered workshop," and "Other agency serving persons with disabilities." These categories are included here as "agencies serving individuals with disabilities or sheltered workshops."

Table 3-7

SOURCE OF VOCATIONAL ASSISTANCE, BY PRIMARY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Youth received vocational assistance from:											
Postsecondary school	33.4 (2.4)	43.7 (4.5)	36.3 (5.3)	42.3 (6.3)	9.1 (2.4)	36.3 (4.4)	52.6 (4.6)	44.4 (3.7)	31.0 (5.0)	34.6 (6.0)	11.2 (3.1)
Agency serving individuals with disabilities or sheltered workshops	25.8 (2.3)	12.4 (2.8)	22.2 (4.6)	17.6 (4.9)	53.8 (4.1)	44.2 (4.5)	20.4 (3.7)	20.9 (3.0)	36.2 (5.2)	30.9 (5.8)	57.4 (4.9)
Vocational Rehabilitation	12.7 (1.7)	9.6 (2.5)	5.7 (2.6)	9.2 (3.7)	19.0 (3.2)	17.3 (3.4)	23.5 (3.9	40.2 (3.6)	30.7 (5.0)	11.1 (3.9)	17.4 (3.7)
Employer	16.3 (1.9)	22.4 (3.6)	15.8 (4.0)	17.1 (4.8)	6.6 (2.0)	4.0 (1.8)	5.3 (2.1)	7.7 (2.0)	2.7 (1.8)	16.5 (4.7)	4.0 (1.9)
Other source	32.7 (2.4)	34.0 (4.1)	36.7 (5.3)	36.3 (6.1)	30.0 (3.8)	23.5 (3.8)	29.4 4.2	23.7 (3.2)	24.0 (4.6)	28.8 (5.7)	27.8 (4.4)
n	1,951	227	140	111	250	218	219	330	156	115	185

Standard errors are in parentheses.

A youth's disability classification had a great deal to do with the source of his or her vocational assistance. This results largely from the fact that to receive services from a postsecondary school or an employer, a youth must have been enrolled in such a school or have been employed. Therefore one would expect patterns of receipt from these sources to reflect patterns of postsecondary enrollment and employment. (See Marder, 1992, for a full discussion of postsecondary enrollment patterns of youth with disabilities, and D'Amico and Blackorby, 1992, regarding employment.)

Receipt of vocational assistance from employers by youth with various disability classifications parallels employment rates, in that the disability classifications with the highest employment rates (learning disabled and speech impaired) also were the most likely to receive vocational assistance from employers. Conversely, the disability classifications with the lowest employment rates (visually impaired, orthopedically impaired, and multiply handicapped) were the least likely to receive vocational assistance from employers. Similarly, youth classified as mentally retarded or multiply handicapped were less likely than youth with disabilities in general to be enrolled in postsecondary schools (see Marder, 1992), and service recipients with these classifications also were less likely than service recipients in general to receive vocational assistance from

less likely than service recipients in general to receive vocational assistance from postsecondary schools (9% and 11%, respectively, vs. 33%, $p<.01$). However, for youth with many classifications, there was no correspondence between employment rates and likelihood of receiving vocational assistance from an employer or between postsecondary school enrollment rates and the likelihood of receiving service from a postsecondary school.

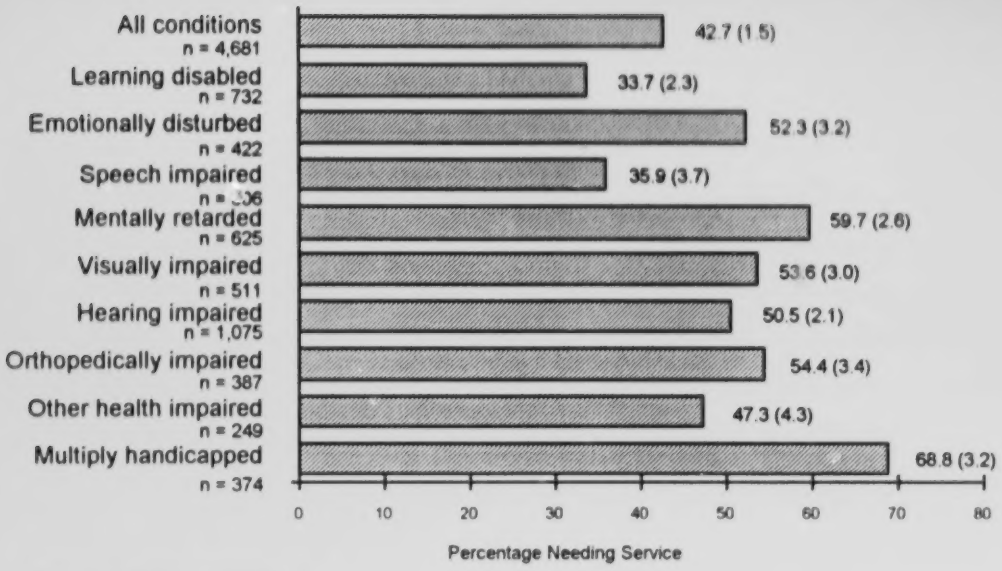
Among youth who received vocational assistance, those classified as mentally retarded or multiply handicapped were most likely to receive vocational assistance from agencies that serve individuals with disabilities or from sheltered workshops. Such agencies and workshops also were a common source of services for youth classified as visually impaired or orthopedically impaired. Although VR served only 13% of youth who received vocational assistance overall, it was the provider for about one-third of service recipients classified as hearing impaired or orthopedically impaired.

Life Skills Training

In its focus on life skills training, the NLTS inquired about an extremely broad category of services. Parents were asked about "any instruction in how to do things like manage money, cook, or keep house, or any other life skills training or occupational therapy not including instruction from family members or friends." Hence, the category of life skills training reported on here includes skills for daily living, such as home care, meal preparation, money management, or social skills. It also includes training in hygiene, dressing, feeding, and toileting—training that may be necessary for very few students with disabilities. Adaptive or prosthetic devices related to fine motor control also may be provided as part of life skills training. This section includes training in classrooms or similar settings or training delivered in small groups or on a one-on-one basis. Thus, training often called "occupational therapy" is included in this section.

Current Need for Life Skills Training

Disability-related characteristics. About 40% of youth with disabilities needed life skills training, according to parent reports (Figure 3-6). This relatively high level of reported need may relate in part to the age of NLTS youth; the early years of adulthood often require youth to perform daily living activities that they may not have done when living at home with parents (e.g., financial management, routine meal preparation, etc.). Help in learning these activities could be needed by many youth of this age, whether or not they had identified disabilities.



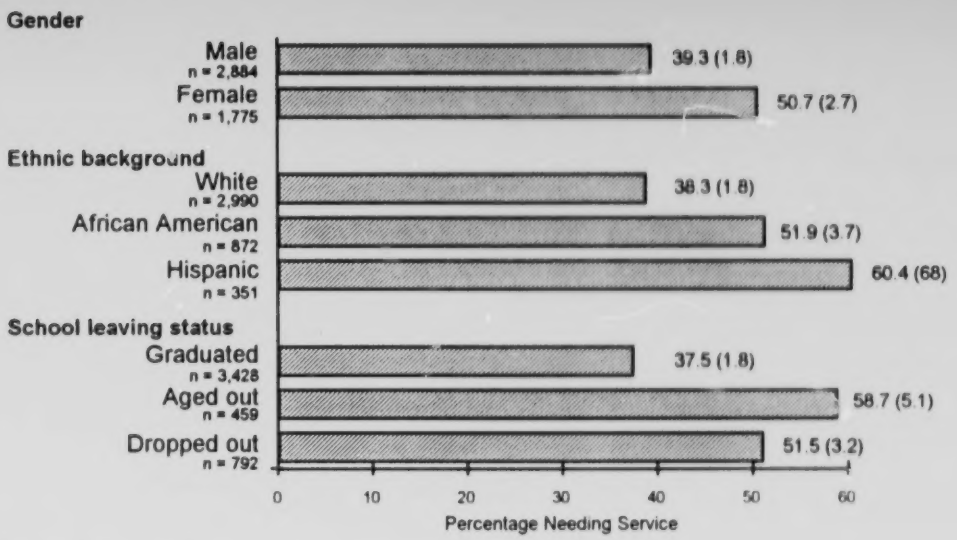
Standard errors are in parentheses.

FIGURE 3-6 CURRENT NEED FOR LIFE SKILLS TRAINING, BY PRIMARY DISABILITY CATEGORY

About half of youth with most disability classifications were reported by parents to need life skills training. Need was least among youth classified as learning disabled or speech impaired, among whom approximately one-third were reported to need life skills training. In contrast, more than two-thirds of youth classified as multiply handicapped were reported to need life skills training ($p<.001$).

Youth with medium or low levels of community living skills were much more likely than high-functioning youth to need life skills training, according to parents. More than two-thirds of youth with medium or low functional levels were reported to need life skills training (70% of those with low functional levels and 67% of those with medium functional levels). Nevertheless, even among youth with high functional levels, more than one-fourth were reported to need life skills training (28%).

Individual and family characteristics. More females than males were reported by parents to need life skills training (Figure 3-7; 51% vs. 39%, $p<.001$). This difference in reported need exists despite the fact that more females than males received life skills training while in secondary school. [For example, Cameto (1993) reports that among 12th-graders with disabilities, 57% of females but only 36% of males received life skills training ($p<.001$).]



Standard errors are in parentheses.

FIGURE 3-7 CURRENT NEED FOR LIFE SKILLS TRAINING, BY SELECTED YOUTH CHARACTERISTICS

Differences in reported need for life skills training may arise in part from differences in severity of disability; past findings from the NLTS suggest that females in special education tend to have marginally more severe disabilities than males (Marder and Cox, 1991). Other possible reasons for differences in reported need may concern differential social roles of males and females, and parents' expectations for them. Among youth with disabilities, females were less likely than males to be working outside the home (D'Amico and Blackorby, 1992). In addition, they were more likely than young males to have children early (Wagner, 1992). Thus, females—more than males—may have been perceived by parents to need to learn daily living skills, such as cooking and cleaning, that can be used in the home.

Need also was reported to be more extensive among both African American and Hispanic youth than among white youth; whereas fewer than 40% of white youth were reported to need life skills training, about 50% of African American youth and 60% of Hispanic youth were reported to need it ($p<.01$).

Compared with graduates, substantially more youth who had aged out or dropped out were reported to need life skills training (59% and 52% vs. 38%, $p<.001$). The greater need of ageouts than of graduates probably results from differences in functioning, not from earlier receipt of service, given findings from previous NLTS research that youth with the most severe disabilities were more likely than other youth with disabilities to receive life

skills training in secondary school (Cameto, 1993). In contrast, the greater need of dropouts than of graduates may well result from differences in services received while in secondary school. Past NLTS research suggests that there are no differences in levels of functioning between graduates and dropouts; however, dropouts tended to have the benefit of fewer services (as well as less education) during secondary school than graduates because they left prematurely (Wagner, 1991b).

Current Receipt of Life Skills Training

Disability-related characteristics. Overall, only about one in four youth who were reported to need life skills training were receiving it (Table 3-8). However, the extent to which needs were met somewhat paralleled the level of need. Thus, for example, the reported need for life skills training was lowest among youth classified as learning disabled, and only 17% of these youth who needed training were receiving it ($p<.01$). In contrast, youth classified as mentally retarded or multiply handicapped had the greatest reported need for life skills training, and 39% and 54% of these youth with needs were receiving services ($p<.001$). The pattern does not always hold, however. For example, the levels of need for life skills training among youth classified as hard of hearing and deaf were almost identical (45% of youth classified as hard of hearing and 51% of youth classified as deaf); however, among those with needs, the latter youth were almost twice as likely to receive such training as the former.

Table 3-8

CURRENT RECEIPT OF LIFE SKILLS TRAINING, BY PRIMARY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped/ Deaf/Blind
Percentage among youth reported to need life skills training	26.0	16.6	22.0	27.6	39.2	34.5	10.7	19.4	23.0	38.1	54.1
	(1.9)	(2.8)	(3.6)	(5.4)	(3.2)	(3.9)	(3.0)	(3.1)	(3.7)	(5.8)	(4.2)
n	2,206	230	208	99	363	252	202	290	197	113	252
Percentage among youth with disabilities, independent of need	11.1	5.6	11.5	9.9	23.4	18.5	23.8	38.1	12.5	18.0	37.2
	(1.0)	(1.1)	(2.0)	(2.3)	(2.2)	(2.3)	(2.2)	(2.1)	(2.3)	(3.3)	(3.3)
n	4,681	732	422	306	625	511	469	606	387	249	374

Standard errors are in parentheses.

These patterns of service receipt by disability category are similar to those the NLTS has found for secondary school students. For example, significantly higher percentages of students classified as mentally retarded or multiply handicapped than of students classified as learning disabled, seriously emotionally disturbed, or hard of hearing received life skills training from their secondary schools (Cameto, 1993).

The disability categories with the highest levels of met need for life skills training also are those with relatively more low-functioning youth. Thus, it is not surprising that among youth with reported needs for life skills training, those with low levels of community living skills were more than twice as likely as those with medium or high levels of community living skills to be receiving life skills training—more than 45%, compared with fewer than 20% (Table 3-9; $p<.001$).

Table 3-9

CURRENT RECEIPT OF LIFE SKILLS TRAINING, BY LEVEL OF COMMUNITY LIVING SKILLS

		High Skills	Medium Skills	Low Skills
Percentage among youth reported to need life skills training		13.8	18.4	46.4
		(2.5)	(3.1)	(4.6)
	n	806	711	581
Percentage among youth with disabilities, independent of need		3.9	12.4	33.0
		(.8)	(2.2)	(3.3)
	n	2,508	1133	822

Standard errors are in parentheses.

Individual and family characteristics. Although need for service varied by several demographic characteristics, there were few statistically significant differences in receipt of life skills training associated with such characteristics. Exceptions concerned youths' ethnic background and secondary school completion status. In particular, African American and Hispanic youth were significantly less likely than white youth to have their needs for life skills training met. About 30% of white youth needing life skills training were being served, whereas only about 20% of African American youth and 12% of Hispanic youth with needs were being served (Table 3-10; $p<.10$). In addition, youth who dropped out of secondary school were much less likely than youth who graduated or aged out to have their needs for services met. Among youth needing life skills training, only 13% of dropouts were receiving it, compared with 30% of graduates and 39% of youth who aged out ($p<.001$).

Table 3-10

CURRENT RECEIPT OF LIFE SKILLS TRAINING, BY SELECTED YOUTH CHARACTERISTICS

	Gender		Ethnic Background			School Leaving Status		
	Male	Female	White	African American	Hispanic	Graduated	Aged Out	Dropped Out
Percentage among youth reported to need life skills training	25.4	26.6	29.5	21.2	12.1	29.6	39.2	13.4
	(2.3)	(3.2)	(2.5)	(3.8)	(5.7)	(2.5)	(6.6)	(2.6)
n	1,318	879	1,322	481	190	1,479	296	431
Percentage among youth with disabilities, independent of need	10.0	13.5	11.3	11.0	7.3	11.1	23.0	6.9
	(1.1)	(1.9)	(1.2)	(2.3)	(3.6)	(1.2)	(4.4)	(1.6)
n	2,884	1,775	2,990	872	351	3,428	459	792

Standard errors are in parentheses.

Sources of Life Skills Training

According to parent reports, almost half of youth with disabilities who received life skills training received these services from agencies that specialize in serving individuals with disabilities or from sheltered workshops (Table 3-11). Parents reported that postsecondary schools and state Vocational Rehabilitation agencies, special schools or adult schools, and hospitals served between 4% and 13% of youth who received services.

Service providers differed relatively little for youth with different disability classifications. The main exception was that postsecondary schools and VR were more common sources of services for youth classified as hearing impaired than for youth with other disability classifications ($p<.001$). In addition, receipt of life skills training from employers was fairly common for youth classified as learning disabled; about 1 in 5 service recipients with this classification received life skills training from employers. In contrast, very few youth in other categories received life skills training from employers.

Help from a Tutor, Reader, or Interpreter

This category of services involves assistance from three kinds of human aides. Tutors generally provide academic support and can be trained professionals or peers provided as tutors by schools to any students who need such help. Readers are most often provided to students with visual impairments, but also may assist those with physical or other

Table 3-11

SOURCES OF LIFE SKILLS TRAINING, BY PRIMARY DISABILITY CLASSIFICATION

	All Conditions*	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage of recipient who received life skills training from:										
Agencies serving individuals with disabilities/sheltered workshops	46.0 (3.8)	31.4 (8.2)	38.1 (8.1)	40.8 (11.3)	59.2 (4.9)	60.3 (5.7)	21.0 (4.3)	52.0 (8.4)	51.0 (9.1)	56.1 (5.2)
Postsecondary schools	12.7 (2.5)	22.6 (7.4)	9.1 (4.8)	11.4 (7.3)	5.7 (2.3)	18.3 (4.5)	38.5 (5.2)	14.6 (5.9)	15.4 (6.6)	1.0 (1.1)
Employers	10.7 (2.3)	20.5 (7.2)	10.2 (5.1)	9.5 (6.7)	5.2 (2.2)	1.7 (1.5)	3.4 (1.9)	2.3 (2.5)	2.4 (2.8)	3.9 (2.0)
Vocational Rehabilitation	6.4 (1.8)	4.4 (3.6)	3.3 (3.0)	8.2 (6.3)	7.1 (2.6)	9.8 (3.5)	24.9 (4.6)	7.2 (4.3)	9.3 (5.3)	10.6 (3.2)
Special schools	6.6 (1.9)	3.9 (3.4)	4.0 (3.3)	10.1 (6.9)	8.7 (2.8)	6.3 (2.8)	10.1 (3.2)	6.3 (4.1)	7.3 (4.7)	10.5 (3.2)
Hospitals	4.7 (1.6)	4.4 (3.6)	8.0 (4.5)	5.2 (5.1)	3.9 (1.9)	9 (1.1)	4.4 (2.2)	6.5 (4.1)	7.7 (4.9)	4.8 (2.2)
Other sources	19.3 (3.0)	15.7 (6.4)	33.3 (7.9)	19.7 (9.1)	18.9 (3.9)	11.2 (3.7)	11.3 (3.4)	14.3 (5.9)	12.4 (6.0)	22.7 (4.4)
n	893	54	62	33	168	132	164	65	53	162

Standard errors are in parentheses.

* "All conditions" includes youth in each of the 11 federal special education disability categories. Percentages are reported separately only for categories with at least 25 students.

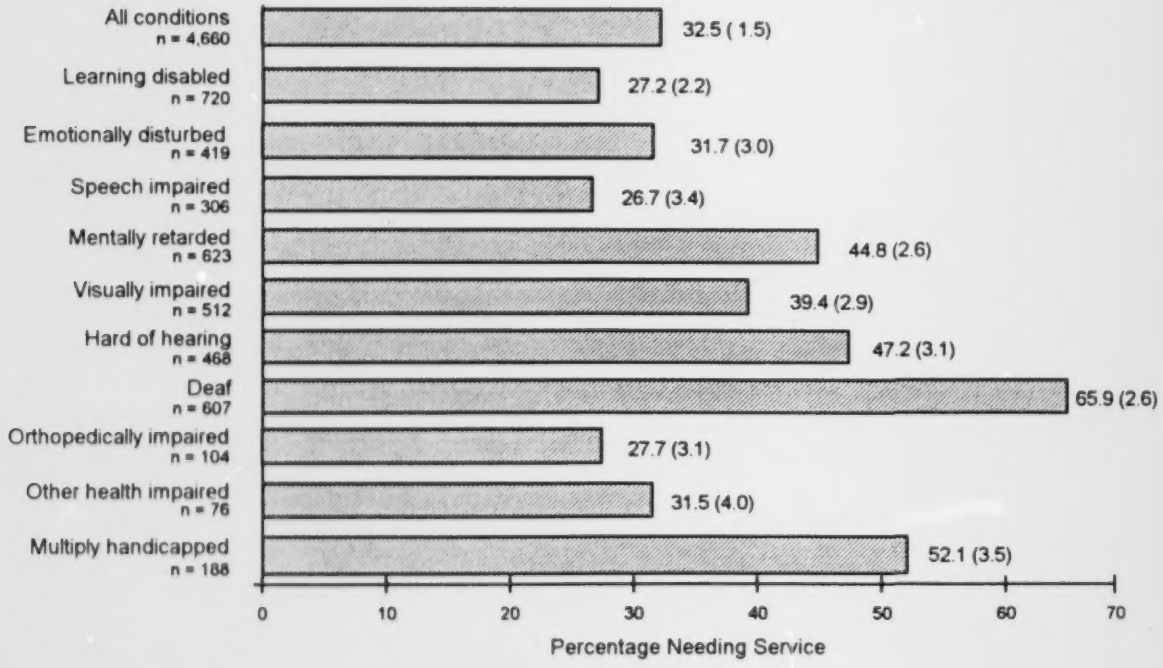
disabilities that challenge their ability to read. Interpreters most commonly assist students with hearing or speech impairments who communicate with sign language or other non-verbal communication methods. Tutoring is a service typically provided only to students; however, in some cases individuals who are not enrolled in a school also may need and/or receive tutoring—for example, for in-service training. Reading or interpreting services also may be more likely to be needed and received by students; however, they also may be needed or provided in other settings, such as at jobs, residences, or activity centers.

To understand the use of these types of services, the NLTS asked parents a series of questions regarding "help from a tutor, a reader to help [the youth] understand written

strong association between tutoring, reading, or interpreting services and postsecondary enrollment for youth, this section examines reported need for and receipt of these services for youth with disabilities regardless of postsecondary enrollment status, and then for youth who were and were not enrolled in postsecondary schools.

Current Need for Help from a Tutor, Reader, or Interpreter

Disability-related characteristics. Overall, nearly 1 in 3 youth with disabilities needed help from a tutor, reader, or interpreter, according to parents (Figure 3-8). Not surprisingly, given the types of services included in this category, the level of reported need varied across disability categories. In general, need was reported to be highest among youth with sensory impairments. Almost two-thirds of youth classified as deaf, about half of youth classified as multiply handicapped (which includes youth classified as deaf/blind) or hard of hearing, and almost 40% of youth classified as visually impaired were reported to need these services ($p<.001$). Need also was relatively high among youth classified as mentally retarded (45%, $p<.05$). The higher level of reported need



Standard errors are in parentheses.

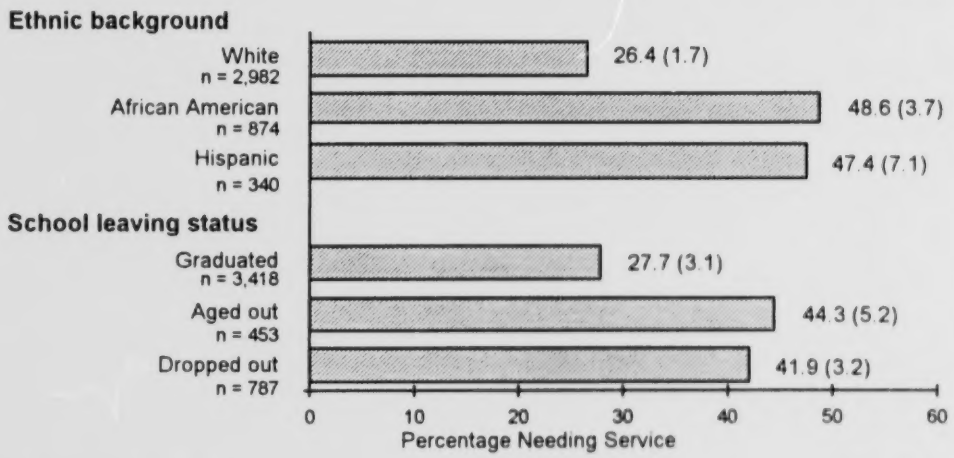
FIGURE 3-8 CURRENT NEED FOR HELP FROM A TUTOR, READER, OR INTERPRETER, BY PRIMARY DISABILITY CATEGORY

among youth with these classifications may be explained in part by their need for reading or interpreting services in addition to tutoring services, which might be needed by any youth. In addition, youth classified as visually impaired may have greater need for tutors, given their relatively high postsecondary enrollment rates. (The association of postsecondary enrollment and need for help from tutors, readers, or interpreters is discussed below.)

At the other end of the spectrum, fewer than 30% of youth classified as learning disabled, speech impaired, or orthopedically impaired needed these services ($p<.05$ compared with youth classified as visually impaired, hearing impaired, multiply handicapped, or mentally retarded).

According to parent reports, need for help from a tutor, reader, or interpreter was considerably more common among youth whose functional level was medium or low than among high-functioning youth, as measured by the community living skills index. More than one-half of youth whose level of functioning was low (55%) or medium (52%) were reported to need these types of services; in contrast, only 23% of high-functioning youth were reported to need them ($p<.001$).

Individual and family characteristics. Neither a youth's gender nor the educational attainment of his or her household head was associated with reported need for help from a tutor, reader, or interpreter. However, reported need for these forms of service was associated with ethnic background and secondary school completion status. Parents reported that nearly one-half of African American and Hispanic youth, but only one-fourth of white youth, needed help from a tutor, reader, or interpreter (Figure 3-9; $p<.001$).

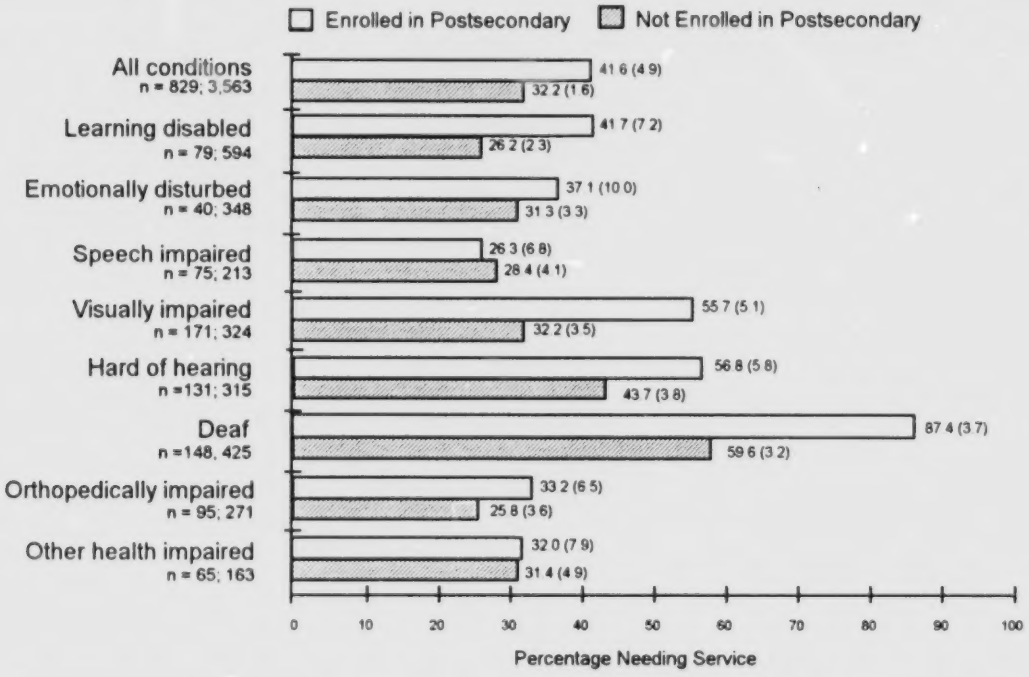


Standard errors are in parentheses.

FIGURE 3-9 CURRENT NEED FOR HELP FROM A TUTOR, READER, OR INTERPRETER, BY SELECTED YOUTH CHARACTERISTICS

Whereas more than 40% of youth who had aged out or dropped out of high school were reported to need this type of help, fewer than 30% of youth who had graduated were reported to need it ($p<.01$). This finding is somewhat surprising in that one might expect ageouts and dropouts to be less likely than graduates to need tutors because they tended not to enroll in postsecondary schools. Possibly, they were more likely than graduates to need readers and/or interpreters.

Postsecondary school enrollment status. As expected, the level of reported need for tutoring, reading, or interpreting services was greater among postsecondary students than among nonstudents; however, the difference was only 10 percentage points for youth with disabilities as a group (42% vs. 32%, $p<.05$; Figure 3-10), and significant differences were found only for youth classified as learning disabled, visually impaired, hard of hearing, or deaf ($p<.05$). For these groups of youth, gaps between reported need among students and nonstudents ranged from 13 percentage points (for youth classified as hard of hearing) to 27 percentage points (for youth classified as deaf). Reported need for services was particularly high among students classified as deaf, with almost 90% needing services.



Youth classified as mentally retarded or multiply handicapped are not included in the figure because fewer than 25 youth in the sample were enrolled in postsecondary schools.

Standard errors are in parentheses.

FIGURE 3-10 CURRENT NEED FOR HELP FROM A TUTOR, READER, OR INTERPRETER, BY POSTSECONDARY SCHOOL ENROLLMENT STATUS

It is interesting that the greatest gaps in need for services between postsecondary students and nonstudents were found among youth who were most likely to need help from readers or interpreters (with the exception of youth classified as learning disabled). One might have expected that youth with hearing or visual impairments would be about equally likely to need help from readers or interpreters regardless of their enrollment status, whereas the only type of help youth with other classifications would need would be tutoring, and this only if they were enrolled. However, in reality, these latter youth also might need readers or interpreters—because of either secondary visual, aural, or speech disabilities or problems associated with primary disabilities, such as not being able to concentrate on a written page or hold a book. Also, some of these youth may have needed tutoring in non-education settings, such as on-the-job training.

Current Receipt of Help from a Tutor, Reader, or Interpreter

Disability-related characteristics. Fewer than one in four youth reported to need help from a tutor, reader, or interpreter were receiving such help (Table 3-12). However, just as youth with sensory impairments were more likely than youth with most other classifications to need services, needs also were met for larger percentages of them than for youth with disabilities overall ($p<.001$). About 45% of youth classified as visually impaired, deaf, or multiply handicapped and almost 40% of youth classified as hard of hearing with reported needs for services received them.

Table 3-12

CURRENT RECEIPT OF HELP FROM A TUTOR, READER, OR INTERPRETER, BY PRIMARY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage among youth reported to need tutoring/reading/ interpreting help	23.4	19.1	18.3	24.1	27.5	45.2	38.8	48.4	33.6	18.7	43.8
	(2.3)	(3.7)	(4.7)	(6.5)	(3.5)	(4.8)	(4.6)	(3.4)	(6.3)	(6.1)	(4.8)
n	1,833	186	120	78	273	198	209	401	104	76	188
Percentage among youth with disabilities, independent of need	7.6	5.2	5.8	6.4	12.3	17.8	18.2	31.5	9.3	5.9	22.8
	(.8)	(1.1)	(1.5)	(1.9)	(1.7)	(2.3)	(2.0)	(1.9)	(2.0)	(2.0)	(2.9)
n	4,660	720	418	306	623	512	468	607	390	245	371

Standard errors are in parentheses.

Regardless of level of community living skills, relatively few youth were receiving help from a tutor, reader, or interpreter. Among youth with the lowest community living skills index scores, fewer than one-third who were reported to need help were receiving it (Table 3-13). Youth with medium scores on the community living skills index were even less likely to receive help; about one-fifth of youth with reported need were receiving services ($p<.1$).

Table 3-13

CURRENT RECEIPT OF HELP FROM A TUTOR, READER, OR INTERPRETER, BY LEVEL OF COMMUNITY LIVING SKILLS

		High Skills	Medium Skills	Low Skills
Percentage among youth reported to need tutoring/reading/interpreting help		23.3	19.8	31.7
		(3.5)	(3.8)	(5.1)
	n	774	574	400
Percentage among youth with disabilities, independent of need		5.3	10.3	17.3
		(.9)	(2.0)	(2.9)
	n	2,512	1,132	819

Standard errors are in parentheses.

Individual and family characteristics. Receipt of services by those who needed them was not associated with gender or household head's educational attainment. However, both white and African American youth with needs for services were more likely to receive them than Hispanic youth. Whereas about 1 in 4 white or African American youth reported to need services were receiving them, only about 1 in 10 Hispanic youth were being served (Table 3-14; $p<.1$ compared with white youth). Youth who either graduated or aged out of secondary school were more likely than dropouts to receive services (28% and 30%, respectively, vs. 10%, $p<.05$).

Postsecondary school enrollment status. Not surprisingly, we find that postsecondary school enrollment status was strongly associated with receipt of help from tutors, readers, or interpreters. Among youth with disabilities as a group, fewer than 20% of nonstudents with needs were receiving these types of services; however, 60% of students with needs were receiving them (Table 3-15; $p<.001$). This pattern holds for every disability category in which sample sizes allowed calculation.

Table 3-14

CURRENT RECEIPT OF HELP FROM A TUTOR, READER, OR INTERPRETER, BY SELECTED YOUTH CHARACTERISTICS

		Ethnic Background			School Leaving Status		
		White	African American	Hispanic	Graduated	Aged Out	Dropped Out
Percentage among youth reported to need tutoring/reading/interpreting		25.8	23.7	10.1	28.5	29.8	11.7
		(3.1)	(4.4)	(6.6)	(3.1)	(7.2)	(3.2)
	n	1,027	457	154	1,286	232	315
Percentage among youth with disabilities, independent of need		6.8	11.5	4.8	7.9	13.2	4.9
		(1.0)	(2.3)	(3.0)	(1.0)	(3.6)	(1.4)
	n	2,982	874	340	3,418	453	787

Standard errors are in parentheses.

Table 3-15

CURRENT RECEIPT OF HELP FROM A TUTOR, READER, OR INTERPRETER, BY STUDENTS AND NONSTUDENTS WITH NEED FOR SERVICES

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Not enrolled in postsecondary	18.0	11.5	10.2	14.1	27.0	25.8	28.4	22.5	19.1	41.7
	(2.3)	(3.4)	(4.0)	(6.1)	(3.6)	(5.9)	(3.1)	(6.9)	(7.5)	(5.2)
n	1,311	146	99	57	257	99	374	66	50	163
Enrolled in postsecondary	60.1	58.0	--	--	--	70.2	80.3	67.5	--	--
	(7.6)	(11.3)	--	--	--	(6.4)	(3.8)	(11.1)	--	--
n	428	32	13	20	6	93	202	32	21	9

Standard errors are in parentheses.
Percentages are reported separately only for categories with at least 25 students.

There were no significant differences in receipt of services between the disability categories for postsecondary students with needs. However, there was considerable variation in the extent to which needs were met among nonstudents with various disability classifications, where receipt of services by youth with needs ranged from 10% of youth classified as seriously emotionally disturbed to 42% of youth classified as multiply handicapped ($p<.001$).

Sources of Tutor, Reader, or Interpreter Services

The most common providers of tutoring, reading, or interpreting were neither schools nor agencies but youths' family members and/or friends, who provided help to 40% of youth who received it (Table 3-16). As might be expected, postsecondary schools also were important providers of tutors, readers, or interpreters, serving about one-third of service recipients. Agencies serving individuals with disabilities and/or sheltered workshops served fewer youth ($p<.05$) but still provided services to about 20% of youth who were receiving services.

Table 3-16

SOURCES OF TUTOR, READER, OR INTERPRETER SERVICES, BY PRIMARY DISABILITY CLASSIFICATION

Percentage of recipients of tutoring/reading/interpreting who received it from:	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Family members/ friends	40.1 (4.0)	38.8 (8.2)	13.5 (6.9)	30.0 (9.9)	50.2 (6.2)	50.8 (5.7)	33.9 (5.4)	34.5 (3.7)	51.7 (8.6)	33.8 (11.3)	38.9 (6.4)
Postsecondary schools	32.7 (3.8)	51.8 (8.4)	31.4 (9.4)	48.4 (10.8)	9.0 (3.5)	36.7 (5.5)	49.5 (5.7)	44.3 (3.8)	36.9 (8.3)	23.4 (10.1)	12.8 (4.4)
Agencies serving individuals with disabilities	20.1 (3.3)	12.7 (5.6)	20.5 (8.2)	8.7 (6.1)	29.3 (5.6)	13.3 (3.9)	12.5 (3.8)	19.4 (3.0)	10.8 (5.3)	15.2 (8.5)	38.0 (6.3)
Vocational Rehabilitation	3.4 (1.5)	.0 (.0)	2.4 (3.1)	.0 (.0)	5.0 (2.7)	5.9 (2.7)	10.7 (3.5)	20.5 (3.1)	9.9 (5.1)	.0 (.0)	4.6 (2.7)
Others	19.7 (3.2)	11.7 (5.4)	42.6 (10.0)	24.3 (9.3)	22.2 (5.1)	10.2 (3.4)	14.7 (2.3)	14.5 (2.7)	17.3 (6.5)	31.1 (11.0)	31.0 (6.0)
n	1,038	59	43	38	112	140	139	309	63	31	104

Standard errors are in parentheses.

Sources of services varied somewhat according to disability classification. For example, youth classified as seriously emotionally disturbed were less likely than others to receive services from their families (14%, $p<.001$). Service recipients classified as mentally retarded or multiply handicapped were particularly likely to receive tutoring, reading, or interpreting from agencies serving individuals with disabilities. Service recipients classified as deaf were more likely than most other youth to receive services

from VR ($p<.05$ for comparison with youth with every classification except orthopedically impaired).

The extent of service by postsecondary schools loosely parallels the enrollment rates of youth with the various disability classifications. Enrollment rates were highest among youth classified as speech impaired, visually impaired, hard of hearing, deaf, or other health impaired, and lowest among mentally retarded or multiply handicapped. Thus, it is not surprising that postsecondary schools were a more common source of services for youth classified as hard of hearing or deaf than for youth with disabilities in general (50% and 44% vs. 33%, $p<.05$) and a less common source of services for youth classified as mentally retarded or multiply handicapped (9% and 13% vs. 33%, $p<.001$). However, service recipients classified as learning disabled also were significantly more likely than youth with disabilities in general to receive tutoring, reading, or interpreting from postsecondary schools ($p<.05$).

Patterns of service by agencies that serve exclusively individuals with disabilities and/or by sheltered workshops and Vocational Rehabilitation differed little across the disability categories. The only significant difference is that almost twice as many service recipients classified as multiply handicapped received tutoring, reading, or interpreting from agencies that serve individuals with disabilities exclusively and/or from sheltered workshops (38% vs. 20%, $p<.01$). In addition, Vocational Rehabilitation was a more common service provider for youth classified as hearing impaired than for other groups of youth; among service recipients, 17% of youth with this classification received help from Vocational Rehabilitation, compared with 3% of youth with disabilities overall ($p<.001$).

Personal Counseling or Therapy

Personal counseling or therapy includes a wide range of psychological, emotional, and social support, including individual psychiatric or psychological counseling, group counseling, social work services, substance abuse therapy, and others. Services can be provided by various types of professionals, among them psychiatrists, psychologists, marriage and family counselors, social workers, and case managers. Personal counseling or therapy received from a family member or friend is not included in the analyses in this section. Counseling exclusively related to vocational and/or occupational matters also is not included in this section.*

Current Need for Personal Counseling

Disability-related characteristics. According to parent reports, nearly 1 in 3 youth overall needed personal counseling (Figure 3-11). The level of reported need varied somewhat across disability categories, with youth classified as seriously emotionally

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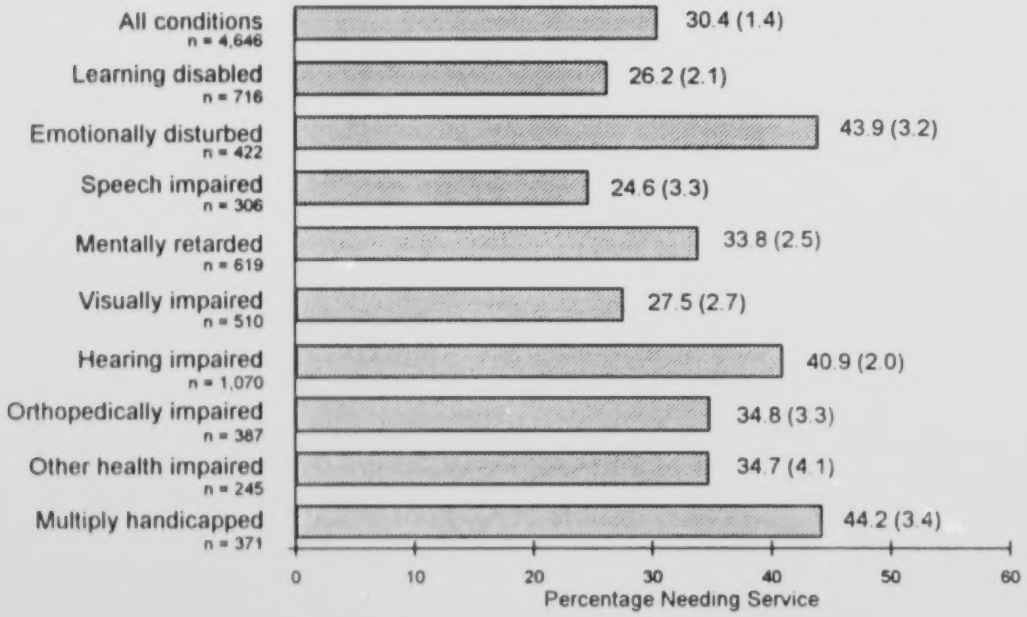
* Vocational and occupational counseling were covered in the section "Vocational Assistance."

disturbed, hearing impaired, or multiply handicapped being much more likely than youth with disabilities in general to need these services. More than 40% of youth with these classifications were reported to need counseling ($p<.001$).



Standard errors are in parentheses.

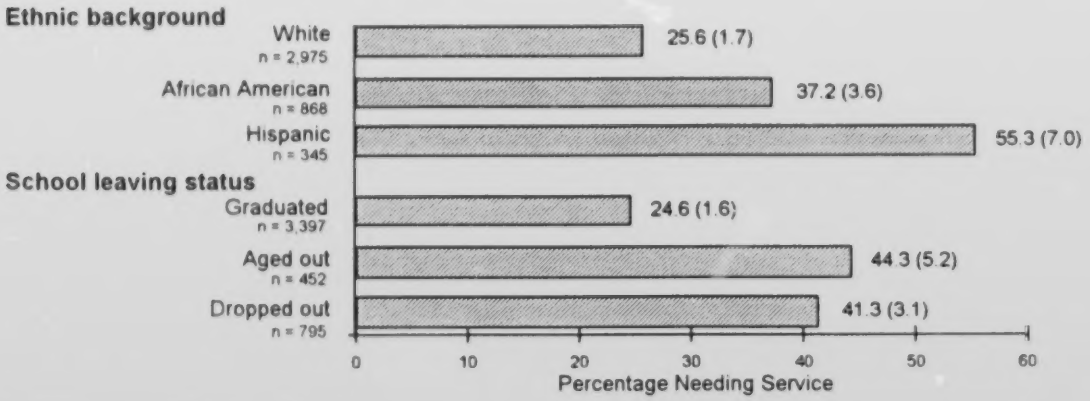
FIGURE 3-11 CURRENT NEED FOR PERSONAL COUNSELING, BY PRIMARY DISABILITY CATEGORY

Need for personal counseling or therapy often is associated with emotional problems. Thus, the fact that fewer than half of parents of youth classified as seriously emotionally disturbed reported that their sons or daughters needed personal counseling is somewhat difficult to interpret. In part, it may result from some youths' problems having been successfully resolved, for example, through earlier treatment or through acquiring greater stability with maturation. On the other hand, it also may result from parents' lack of understanding of the nature of youths' disabilities or of the potential benefits of personal counseling. Some parents may have had negative experiences with service providers, who sometimes portray them as being the cause of their children's disabilities; those parents may be particularly unlikely to feel that their children need personal counseling or therapy (see Knitzer, 1992).

Youth with low or medium functional levels, as measured by the community living skills index, were considerably more likely to be in need of personal counseling than youth with high functional levels. Parents reported that 22% of youth with high community living skills levels needed personal counseling. In contrast, 44% of youth with low skills and 51% of those with medium levels of community living skills were reported to need personal counseling services ($p<.001$).

Individual and family characteristics. The extent of need for personal counseling was not associated with youths' gender or the educational level of their household heads. However, African American youth were more likely to be reported as needing personal counseling than white youth (Figure 3-12; 37% vs. 26%, $p<.01$). Hispanic youth were more likely to be reported as needing personal counseling than either white or African American students (56%, $p<.05$).

Substantially more youth who had aged out or dropped out of high school than youth who had graduated were reported to need personal counseling. Only about 25% of high school graduates were identified as needing personal counseling, compared with slightly more than 40% of youth who had aged out or dropped out ($p<.001$).



Standard errors are in parentheses.

FIGURE 3-12 CURRENT NEED FOR PERSONAL COUNSELING, BY SELECTED YOUTH CHARACTERISTICS

Receipt of Personal Counseling

Disability-related characteristics. Only about 1 in 4 youth who were reported to need counseling were receiving it. Percentages of youth with reported needs for personal counseling who received services ranged from fewer than 20% of those classified as learning disabled or hearing impaired to 34% and 40% of those classified as mentally retarded or multiply handicapped (Table 3-17; $p<.01$). Interestingly, among youth who were reported to need personal counseling, those classified as seriously emotionally disturbed were not significantly more likely to receive it than were youth with most other disability classifications.

Table 3-17

CURRENT RECEIPT OF PERSONAL COUNSELING, BY PRIMARY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage among youth reported to need personal counseling	23.7	17.6	27.1	19.5	34.3	29.1	17.8	25.0	21.9	40.0
	(2.4)	(3.7)	(4.3)	(6.2)	(4.3)	(5.3)	(2.5)	(5.1)	(6.1)	(5.2)
n	1,565	183	181	73	204	134	417	132	85	156
Percentage among youth with disabilities, independent of need	7.2	4.6	11.9	4.8	11.6	8.0	7.3	8.7	7.6	17.7
	(.8)	(1.0)	(2.1)	(1.6)	(1.7)	(1.6)	(1.1)	(1.9)	(2.3)	(2.6)
n	4,646	716	422	306	619	510	1,070	387	245	371

Standard errors are in parentheses.

Needs for personal counseling were more likely to be met for youth with low levels of functioning, as measured by the community living skills index. These also were the youth with the greatest levels of reported need. Nevertheless, even among low-functioning youth, only about one-third of those with reported needs for counseling were receiving it. Among youth with high scores who had needs for counseling, only about one-fifth were receiving services (Table 3-18; $p<.1$ for the comparison between youth with high and low scores).

Individual and family characteristics. A needy youth's likelihood of receiving services was associated with his or her ethnic background and with the educational attainment of his or her household head. Whereas 28% of white youth with reported needs were receiving personal counseling, only 16% of African American youth with reported needs were receiving such services (Table 3-19; $p<.05$). The extent to which needs for services among

Table 3-18

CURRENT RECEIPT OF PERSONAL COUNSELING, BY LEVEL OF COMMUNITY LIVING SKILLS

		High Skills	Medium Skills	Low Skills
Percentage among youth reported to need personal counseling		19.5	27.0	31.6
		(3.3)	(4.3)	(5.4)
	n	633	529	338
Percentage among youth with disabilities, independent of need		4.2	13.7	13.7
		(.8)	(2.3)	(2.6)
	n	2,512	1,134	819

Standard errors are in parentheses.

Table 3-19

CURRENT RECEIPT OF PERSONAL COUNSELING, BY SELECTED YOUTH CHARACTERISTICS

	Ethnic Background			Head of Household Education Status			School Leaving Status		
	White	African American	Hispanic	Less than High School	High School Graduate	More than High School	Graduated	Aged Out	Dropped Out
Percentage among youth reported to need personal counseling	28.5	15.6	17.7	16.2	28.5	27.7	27.6	28.4	16.1
	(3.2)	(4.2)	(7.8)	(3.6)	(4.4)	(4.5)	(3.3)	(7.3)	(3.6)
n	904	347	155	454	503	518	1,013	202	350
Percentage among youth with disabilities, independent of need	7.3	5.8	9.8	5.1	7.9	9.5	6.8	12.6	6.6
	(1.0)	(1.7)	(4.2)	(1.2)	(1.4)	(1.8)	(1.0)	(3.5)	(1.6)
n	2,975	868	345	1,293	1,581	1492	3,397	452	795

Standard errors are in parentheses.

Hispanic youth were met did not differ significantly from their white or African American counterparts. Youth with reported needs whose head of household had a high school diploma or had attended college were more likely than others to receive services (28% and 28% vs. 16%, $p<.05$).

Sources of Personal Counseling

Hospitals, agencies that serve individuals with disabilities, and private therapists were the most frequent providers of personal counseling, each serving approximately one-fourth of youth who received personal counseling. Parents reported that Vocational Rehabilitation provided personal counseling to fewer than 5% of youth who received counseling (Table 3-20).

In general, youths' disability classifications were not associated with different providers of personal counseling. An exception was that service recipients classified as orthopedically impaired were less likely than those in general to receive personal counseling from hospitals (10% vs. 29%, $p<.001$), and no health impaired youth had received personal counseling from VR. In contrast, service recipients classified as hearing impaired were more likely than service recipients in general to receive personal counseling from Vocational Rehabilitation ($p<.01$). Whereas Vocational Rehabilitation provided counseling to 4% of youth with disabilities as a group who received personal counseling, it provided such services to 18% of youth classified as hearing impaired ($p<.001$).

Table 3-20

SOURCES OF PERSONAL COUNSELING, BY PRIMARY DISABILITY CATEGORY

Of youth who received personal counseling since high school, percentage who received it from:	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Hospitals	28.7	29.5	36.3	24.1	26.0	16.4	21.8	9.5	23.1	16.7
	(3.5)	(6.7)	(6.4)	(9.2)	(5.4)	(5.5)	(4.0)	(4.4)	(8.7)	(5.2)
Private therapists	23.6	21.2	28.6	27.8	24.0	25.5	16.4	26.3	35.0	17.0
	(3.2)	(6.0)	(6.0)	(9.6)	(5.2)	(6.4)	(3.6)	(6.6)	(9.9)	(5.2)
Agencies serving individuals with disabilities	26.1	21.6	21.0	13.4	37.0	31.7	20.4	22.1	29.9	37.0
	(3.4)	(6.1)	(5.4)	(7.3)	(5.9)	(6.9)	(3.9)	(6.2)	(9.5)	(6.7)
Vocational Rehabilitation	4.3	3.5	1.0	3.6	6.4	5.3	17.7	6.6	.0	4.7
	(1.5)	(2.7)	(1.4)	(4.0)	(3.0)	(3.3)	(3.7)	(3.7)	(.0)	(3.0)
Others	17.6	17.7	20.7	19.6	15.1	14.7	16.5	14.9	14.1	26.8
	(2.9)	(5.6)	(5.4)	(8.5)	(4.4)	(5.2)	(3.6)	(5.4)	(7.2)	(6.2)
n	819	78	97	39	114	82	197	80	42	90

Standard errors are in parentheses.

Physical Therapy, Mobility Training, or Other Help with Physical Disabilities

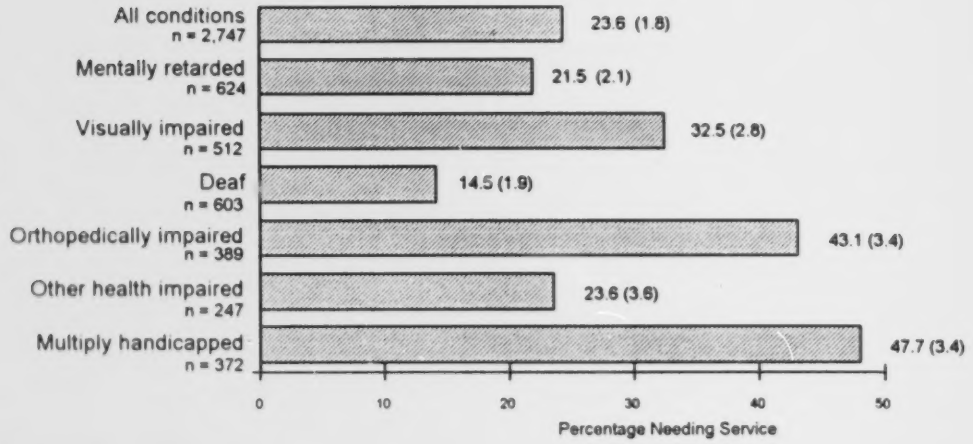
Some disabilities are manifested physically and affect an individual's ability either to perform normal physical activities or to navigate the environment. Under EHA and now IDEA, certain services are designated specifically to address these needs. Physical therapy/mobility training for individuals with disabilities is concerned primarily with gross motor, posture, and positioning problems. Mobility training may include training in the use of adaptive devices such as wheelchairs, walkers, standing tables, canes, etc., as well as direct treatments in range of motion and positioning. Other help with physical needs may support youth with a variety of health impairments (e.g., catheterization, assistance with oxygen supply for individuals with asthma).

To understand the use of these types of services, the NLTS asked parents of youth about "physical therapy, mobility training, or other help with any physical disabilities." In the remainder of this report, all of these services are referred to as physical therapy/mobility training. Because of the nature of the services, parents of youth who were classified as learning disabled, seriously emotionally disturbed, speech impaired, or hard of hearing were not asked questions regarding physical therapy/mobility training. Thus, this section includes only youth whose primary disability classifications were visually impaired, deaf, orthopedically impaired, other health impaired, mentally retarded, or multiply handicapped.

Current Need for Physical Therapy/Mobility Training

Disability-related characteristics. The extent of need for physical therapy/mobility training among youth with physical and sensory disability classifications ranged from about 15% of youth classified as deaf to almost half of youth classified as multiply handicapped (Figure 3-13; $p<.001$); overall, 24% were reported to need these services. According to parents, physical therapy was needed by 24% of youth classified as other health impaired, 32% of youth classified as visually impaired, and 43% of youth classified as orthopedically impaired. The precise services needed by these groups of youth may have differed considerably. For example, a typical need of youth classified as visually impaired may have been to learn to navigate with a cane, whereas youth with an orthopedic impairment may have needed to use a navigational device (e.g., a wheelchair or walker) or exercises so that muscles would not atrophy.

About 20% of youth classified as mentally retarded were reported to need physical therapy/mobility training. Many of these youth may have had secondary disabilities involving physical impairments (see Marder and Cox, 1991, regarding prevalence of secondary disabilities); others, particularly those with severe retardation, may have needed help with mobility.



Standard errors are in parentheses.

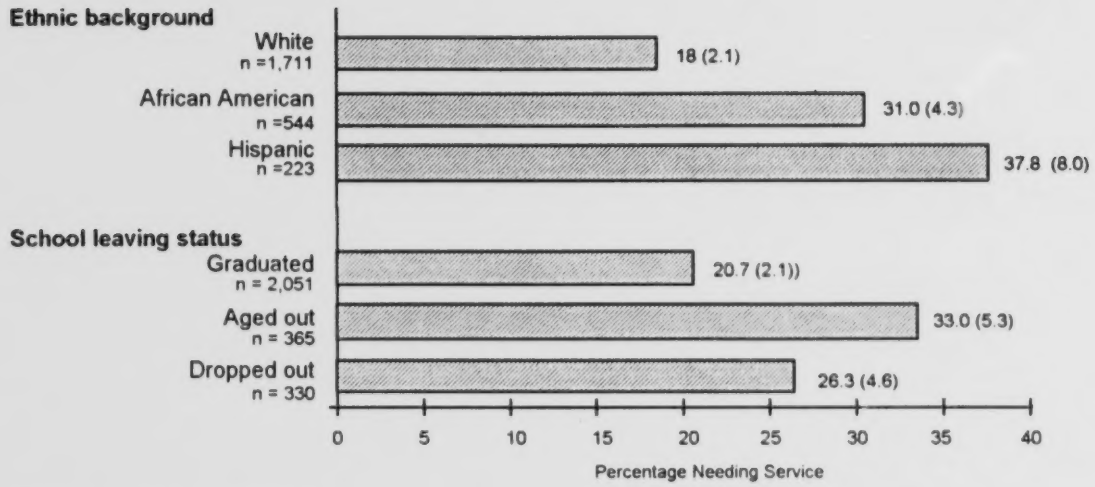
"All conditions" includes youth classified as mentally retarded, visually impaired, deaf, orthopedically impaired, other health impaired, or multiply handicapped. Parents of youth with other disability classifications were not asked questions regarding physical therapy/mobility training.

FIGURE 3-13 CURRENT NEED FOR PHYSICAL THERAPY/MOBILITY TRAINING, BY PRIMARY DISABILITY CATEGORY

Need for physical therapy was relatively uncommon among youth with high levels of functioning, as measured by the community living skills index (11%). The lower a youth's level of functioning, however, the greater his or her likelihood of being reported to need physical therapy/mobility training. Among youth with medium levels of functioning, 20% were reported to need physical therapy/mobility training ($p<.001$ compared with youth with high functional levels), and among youth with low levels of functioning, 41% were reported to need physical therapy/mobility training ($p<.001$).

Individual and family characteristics. Need for physical therapy/mobility training was reported to be more extensive among minority youth than among nonminority youth (Figure 3-14; 31% of African American youth and 38% of Hispanic youth vs. 18%, $p<.01$), and among youth who had aged out of secondary school than among graduates (33% vs. 21%, $p<.01$).

Reported need did not differ among males and females or among youth whose household heads had various levels of education.



Standard errors are in parentheses.

Figure includes youth classified as mentally retarded, visually impaired, deaf, orthopedically impaired, other health impaired, or multiply handicapped. Parents of youth with other disability classifications were not asked questions regarding physical therapy/mobility training.

FIGURE 3-14 CURRENT NEED FOR PHYSICAL THERAPY/MOBILITY TRAINING, BY SELECTED YOUTH CHARACTERISTICS

Current Receipt of Physical Therapy/Mobility Training

Disability-related characteristics. There was considerable range in the extent to which needs for physical therapy/mobility training were met. Overall, about 30% of youth with reported needs were receiving training (Table 3-21). Youth classified as deaf were the least likely to have their needs for services met (9%). Among youth classified as mentally retarded, visually impaired, orthopedically impaired, or other health impaired, between 25% and 35% of youth with needs were receiving these types of services. Youth classified as multiply handicapped were more likely to be receiving physical therapy/mobility training; however, even among these youth, fewer than half of those with reported needs were receiving services. Despite the differences in receipt by youth with various disability classifications, there were no systematic differences in receipt of services by level of community living skills.

Table 3-21

CURRENT RECEIPT OF PHYSICAL THERAPY/MOBILITY TRAINING, BY PRIMARY DISABILITY CATEGORY

	All Conditions	Mentally Retarded	Visually Impaired	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Percentage among youth reported to need physical therapy/mobility training	31.0	30.2	35.4	9.4	26.2	34.7	44.4
	(4.0)	(5.3)	(5.2)	(4.5)	(4.6)	(8.8)	(4.9)
n	854	127	156	73	163	54	179
Percentage among youth with disabilities, independent of need	7.3	6.5	11.5	1.4	11.3	8.2	21.2
	(.5)	(1.3)	(1.9)	(.7)	(2.2)	(2.4)	(2.8)
n	2,747	624	512	1,120	389	247	372

Standard errors are in parentheses.

"All conditions" includes youth classified as mentally retarded, visually impaired, deaf, orthopedically impaired, other health impaired, or multiply handicapped. Parents of youth with other disability classifications were not asked questions regarding physical therapy/mobility training.

Individual and family characteristics. A youth's ethnicity, the educational attainment of his or her household head, and his or her own secondary school completion status were associated with the likelihood of receiving physical therapy/mobility training. Among youth with needs for physical therapy/mobility training, African American youth were significantly less likely than white youth to receive it (Table 3-22; 11% vs. 46%, $p<.001$). Differences in receipt of services among Hispanic youth and white or African American youth were not significant. Youth with needs for physical therapy/mobility training whose parents had completed high school were more than twice as likely to be receiving services as those whose parents were high school dropouts (43% vs. 13%, $p<.05$). In addition, youth who had aged out of school who reportedly needed services were more than twice as likely as dropouts to receive them (45% vs. 19%, $p< 05$).

Sources of Physical Therapy/Mobility Training

According to parent reports, the most common providers of physical therapy/mobility training were agencies that serve individuals with disabilities (e.g., Developmental Disabilities, Lighthouse for the Blind), which provided services to almost 40% of service recipients (Table 3-23). Hospitals and family members or friends were the next most common source of physical therapy/mobility training, each serving about one in five youth who received services. Private therapists served about 14% of youth who received services. VR and special schools each were reported to have served fewer than 10% of youth who received services.

Table 3-22

CURRENT RECEIPT OF PHYSICAL THERAPY/MOBILITY TRAINING, BY SELECTED YOUTH CHARACTERISTICS

	Ethnic Background			Head of Household Education Status			School Leaving Status		
	White	African American	Hispanic	Less than High School	High School Graduate	More than High School	Graduated	Aged Out	Dropped Out
Percentage among youth reported to need physical therapy/mobility training	46.1	10.9	31.0	13.3	43.0	39.8	33.6	44.9	18.7
	(5.8)	(5.2)	(12.8)	(4.8)	(7.6)	(8.5)	(5.1)	(9.5)	(8.2)
n	427	179	70	232	225	225	503	156	92
Percentage among youth with disabilities, independent of need	8.0	3.3	11.6	2.8	8.9	8.8	6.4	14.5	4.8
	(1.4)	(1.7)	(5.3)	(1.2)	(2.1)	(2.4)	(1.3)	(4.0	(2.2)
n	1,711	544	223	768	915	890	2,051	365	330

Standard errors are in parentheses.

Table includes youth classified as mentally retarded, visually impaired, deaf, orthopedically impaired, other health impaired, or multiply handicapped. Parents of youth with other disability classifications were not asked questions regarding physical therapy/mobility training.

Table 3-23

SOURCES OF PHYSICAL THERAPY/MOBILITY TRAINING, BY PRIMARY DISABILITY CLASSIFICATION

Of recipients of physical therapy/mobility training since high school, percentage who received it from:	All Conditions	Mentally Retarded	Visually Impaired	Orthopedically Impaired	Multiply Handicapped
Agencies serving individuals with disabilities	38.8	41.1	49.2	17.5	50.4
	(5.9)	(8.6)	(6.2)	(5.3)	(6.4)
Hospitals	22.9	24.1	22.8	18.0	19.2
	(5.1)	(7.4)	(5.2)	(5.4)	(5.1)
Family members or friends	18.5	19.6	11.9	21.0	17.1
	(4.7)	(6.9)	(4.0)	(5.7)	(4.8)
Physical therapists	13.6	12.2	2.2	24.3	8.5
	(4.1	(5.7	(1.8)	(6.0	(3.6)
Vocational Rehabilitation	6.3	5.7	16.2	9.4	3.2
	(2.9)	(4.0)	(4.6)	(4.1)	(2.2)
Special schools	9.5	10.4	11.2	4.1	8.2
	(4.4)	(6.3)	(5.6)	(3.8)	(3.9)
Others	17.5	16.4	19.8	22.0	24.8
	(4.6)	(6.4)	(4.9)	(5.8)	(5.5)
n	427	56	119	92	104

Standard errors are in parentheses.

"All conditions" includes youth classified as mentally retarded, visually impaired, deaf, orthopedically impaired, other health impaired, or multiply handicapped. Parents of youth with other disability classifications were not asked questions regarding physical therapy/mobility training.

Youth classified as deaf are not included in the table because of small sample sizes.

Patterns of service were generally similar for youth classified as mentally retarded, visually impaired, or multiply handicapped. Among youth classified as orthopedically impaired, however, services were about equally likely to be received from agencies serving individuals with disabilities, hospitals, private therapists, and family members or friends.

Residence in Supervised Living Arrangements

Some youth with disabilities are not able to live on their own without supervision or assistance. Some need another individual available on a continuous basis, for physical needs or for supervision. Others may not need constant supervision but may not be able to function entirely on their own. For example, they may need assistance with shopping or with planning and/or preparing meals. These kinds of support often are available for youth as long as they live with family members, the most common living arrangement for young people with disabilities in the early years after secondary school (Newman, 1992). However, family living arrangements are not possible for all youth who need residential support, particularly as a life-long living arrangement. For some youth with disabilities, a supervised living arrangement may be a viable residential option.

Parents of about 20% of youth with disabilities overall indicated that they did not expect that their sons or daughters would be able to live independently in the future. For youth classified as mentally retarded, orthopedically impaired, other health impaired, or multiply handicapped, the percentages were even higher, ranging from about 25% to more than 60% (Valdés, Williamson, and Wagner, 1990).

Families often are unable to cope with the needs of a disabled family member at home; relatively few families today have an individual who is available to stay home as a caretaker around the clock, as would be needed by some youth once they are no longer in school during the day. The National Alliance for the Mentally Ill recently stated in its Public Policy Platform that "it is not the family's responsibility to provide housing for the ill relative" (National Alliance for the Mentally Ill, 1992). Although institutions such as hospitals or skilled nursing facilities were once the standard alternative to living with the family for such individuals, this is increasingly not the case. Since the 1970s, the numbers of beds available in institutions have been drastically cut, and there has been a clear trend toward community living arrangements.

In an open-ended question, parents of youth were asked where the youth was living at the time of the interview. Codes for responses included "in a supervised living arrangement," "a shelter, halfway house, drug rehabilitation center, YMCA, or home for runaways," and "housing related to job training or employment." These were included as supervised living arrangements in this report. Facilities such as hospitals, institutions for mental disease (IMDs), skilled nursing facilities, and jails or other correctional facilities were not included in this category, nor were college dorms, rooming/boarding houses, or residential boarding schools.

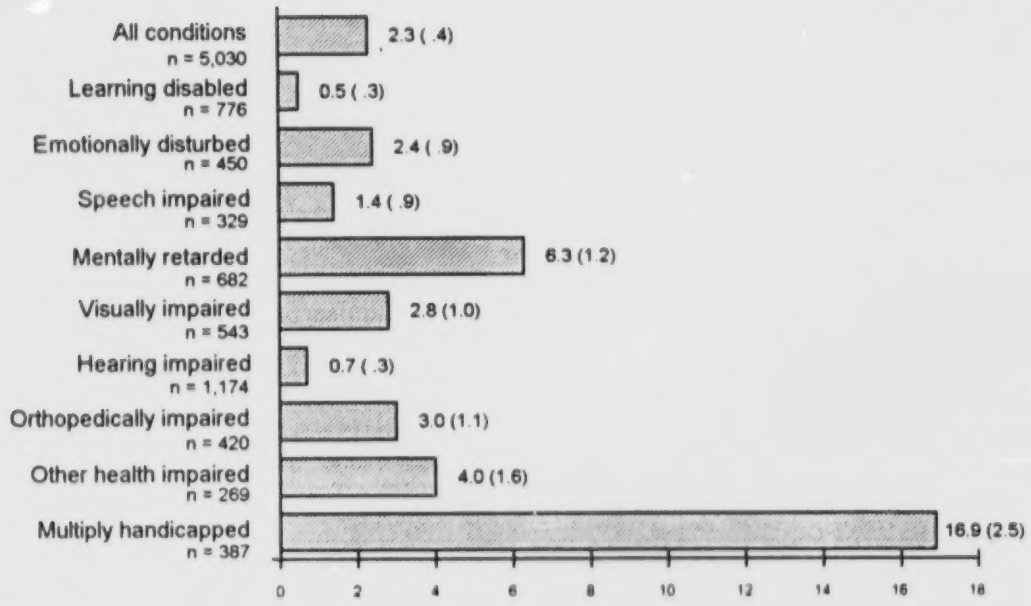
Thus, the term "supervised living arrangements," as used in this report, covers a range of housing arrangements for individuals with disabilities, with various levels of services and restrictions. Among the most restrictive of these types of settings are board and care facilities. In most states, board and care facilities are licensed to provide room, board, supervision, and assistance with medication or other types of assistance related to an individual's disability. Although such facilities exist for youth with all types of disabilities, a given facility usually serves individuals with only one type of disability, often one gender, and within a specific age range. Facilities vary in size, ranging from very few clients to as many as 100.

Board and care facilities allow little discretion to their residents, however. For individuals who are capable of managing their own affairs with some help, supervised or supported independent living situations provide less restrictive alternatives. These are typically apartments or homes owned by agencies and shared by two or more residents. Residents may receive a great deal of supervision, for example, with personal hygiene or household chores, and be required to participate in programs. In other settings, residents may not receive supervision per se, but may receive certain types of regular support (for example, regularly scheduled meetings with housemates run by an agency staff member) and additional support as needed (for example, help with shopping).

This section explores how many youth were living in supervised living arrangements, for how many others supervised living arrangements were being sought, and how they were being sought.

Disability-related characteristics. In the first few years after secondary school, only 2% of youth with disabilities were living in supervised living arrangements (Figure 3-15).* Fewer than 7% of youth with any disability classification but one were living in supervised living arrangements. The exception was youth classified as multiply handicapped, of whom 17% were residing in these types of facilities ($p<.001$ for comparison with youth with disabilities as a group).

* As mentioned earlier, the issue of need is not addressed in this or the following section. Thus, receipt of services is presented for all youth with disabilities, regardless of need.

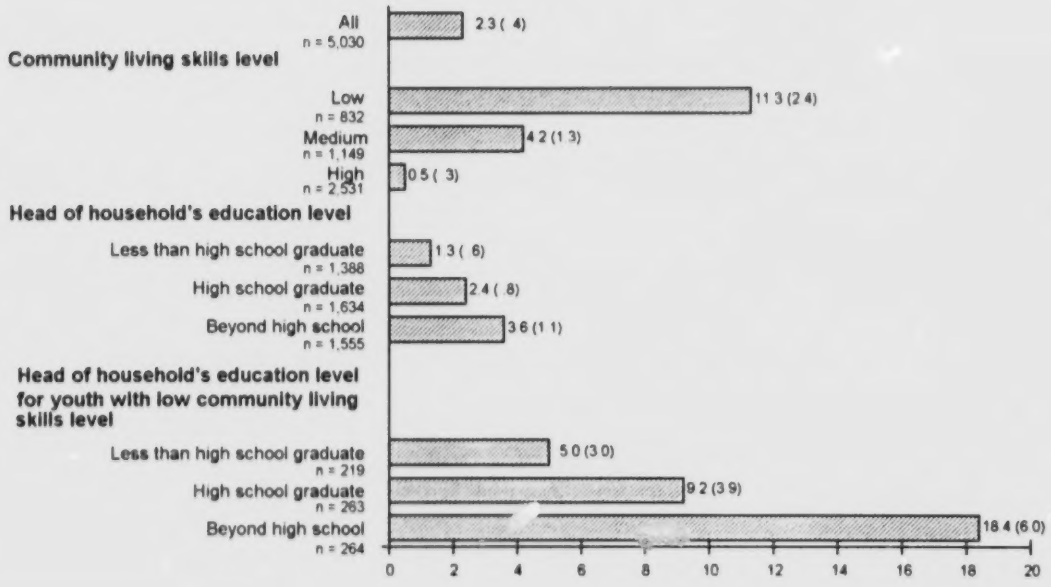


Standard errors are in parentheses.

FIGURE 3-15 PERCENTAGE OF YOUTH LIVING IN SUPERVISED LIVING ARRANGEMENTS, BY PRIMARY DISABILITY CATEGORY

The lower a youth's community living skills level, the more likely he or she was to be in a supervised living arrangement. Almost no youth with high levels of functioning were in supervised living arrangements, whereas 4% of youth with medium levels of functioning and slightly more than 10% of youth with low levels of functioning were living in these types of facilities (Figure 3-16).

Individual and family characteristics. Although gender, ethnic background, and secondary school completion status were not associated with residence in a supervised living facility, household head's level of education was, particularly for low-functioning youth. Differences by head of household's educational level were small among youth when level of functioning was not taken into account; 4% of youth whose household head had attended some college were residing in supervised living arrangements, compared with 1% of youth whose household head had not completed high school (Figure 3-16; $p<.1$). However, among youth with low functional levels, the difference is much greater, with almost 20% of youth whose household head had completed college living in such facilities, compared with 5% of those whose household head had not completed high school ($p<.05$).



Standard errors are in parentheses.

FIGURE 3-16 PERCENTAGE OF YOUTH LIVING IN SUPERVISED LIVING ARRANGEMENTS, BY LEVEL OF COMMUNITY LIVING SKILLS AND HOUSEHOLD HEAD'S LEVEL OF EDUCATIONAL ATTAINMENT

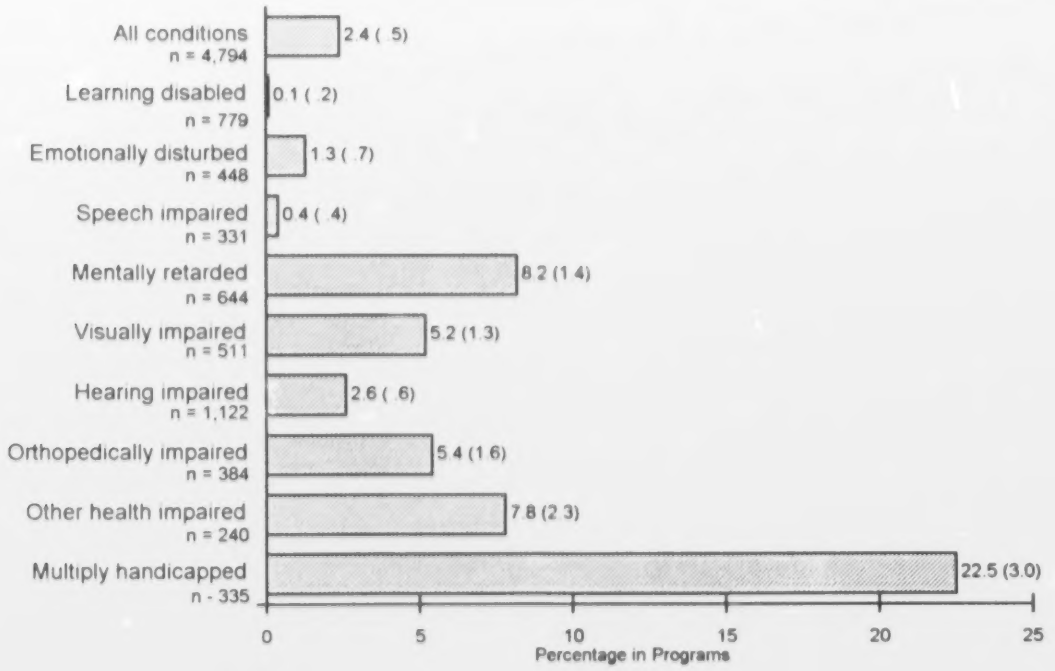
Such a difference may result from the greater ability of parents with higher educational attainment to negotiate entrance for their children into facilities with limited space. In extreme cases, groups of relatively affluent parents may even pool their resources to buy and staff a home for their children. To the extent that affluence is associated with educational level, these types of arrangements would be most likely to be undertaken by parents with higher educational levels than by parents with less education.

Supervised living arrangements appear to be stable rather than temporary living arrangements. Of the 5% of youth who had lived in supervised arrangements at any time since leaving secondary school, almost 60% had lived in them most or all of that time. Relatively longer terms of living in supervised arrangements were more likely the lower a youth's community living skills. About three-fourths of youth (76%) with low community living skills who had lived in a supervised arrangement since secondary school had lived in such a facility most or all of that time; in contrast, 42% of youth with high community living skills who had lived in supervised facilities since secondary school had lived in such settings most of that time ($p<.10$).

Participation in Activity Center Programs

Activity centers provide nonresidential supervised programs of activities or recreation for persons with disabilities. Out-of-school youth with physical, sensory, or multiple disabilities are the most likely to be involved in programs in activity centers. Parents or guardians of youth with these disability classifications were asked a series of questions regarding "a program at an activity center—that is, a place where people with disabilities have supervised recreation and other activities during the day."

Disability-related characteristics. Only 2% of youth were participating in activity center programs at the time of the survey (Figure 3-17). Not surprisingly, the disability classifications that include the largest percentages of youth with severe impairments had the highest rates of participation. In particular, almost one-fourth of youth classified as multiply handicapped were participating in these types of programs ($p<.001$). Youth classified as mentally retarded or other health impaired also were more likely than youth with disabilities overall to participate in activity center programs; about 8% were attending them ($p<.05$).



Standard errors are in parentheses.

FIGURE 3-17 PERCENTAGE OF YOUTH IN ACTIVITY CENTER PROGRAMS, BY PRIMARY DISABILITY CLASSIFICATION

The participation in activity center programs among more severely impaired youth is further supported by examining participation by youth's level of community living skills. Among youth with low levels of community living skills, 16% attended such programs; only 4% of youth with medium skill levels ($p<.001$) and .4% of youth with high skill levels did so ($p<.001$).

Individual and family characteristics. The likelihood of participating in an activity center program was not associated with a youths' gender, ethnicity, or household head's level of educational attainment. However, it was associated with a youth's school completion status, as would be expected, given the association between school completion status and severity of disability. Nearly 12% of youth who aged out of secondary school were involved in activity center programs. In contrast, secondary school graduates or dropouts rarely participated in such programs (2% and .3%, respectively, $p<.001$ compared with youth who aged out).

For the majority of youth in activity center programs, such participation was ongoing rather than short-term. Of the 3% of youth with disabilities who had participated in activity center programs at any time since leaving secondary school, 63% participated in them most or all of that time. The percentage of participants who were long-term participants was constant regardless of the youths' level of functioning.

4 SERVICE SEEKING

The preceding section revealed a substantial amount of unmet need for the services investigated by the NLTS; as many as 75% of youth whose parents reported they needed particular services were not receiving them. What was being done in response to this unmet need? What actions were being taken to obtain services?

This section begins by describing the extent to which each of the five services covered in this report were being sought for youth with unmet needs. Next, the extent to which parents reported trying to arrange for placements in supervised living arrangements or activity center programs is presented. Methods of service seeking for all services and placements are then described. Finally, the section discusses how many youth were on waiting lists for each service or placement.

Service Seeking for Youth with Unmet Needs

For each of the five services, parents who reported that a youth needed the service but was not currently receiving it were asked, "Is anyone trying to arrange for [the service] for [the youth]?" * Regardless of the service, few parents reported that services were being sought for unserved youth who needed them. The most frequently sought service was vocational assistance, and it was being sought for only about one-fourth of youth with unmet needs. Fewer than 15% of parents of youth with unmet needs for any other service indicated that the service was being sought (Table 4-1). It is unknown whether this relatively low level of service seeking resulted from a lack of knowledge of how to go about getting services, a lack of service providers to approach for help, a perception that needs for service were not truly pressing, or discouragement in having tried to obtain services in the past without success.

Disability-related characteristics. Among those with unmet needs for services, all five types of services were being sought most commonly for youth classified as multiply handicapped. For example, vocational assistance was being sought for 48% of youth classified as multiply handicapped and life skills training for 29% of youth with this classification, significantly higher rates than for youth with disabilities in general (24% and 13%, respectively, $p<.001$ and $p<.01$). Active service seeking also was relatively common for youth with orthopedic impairments.

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* Parents were not questioned whether specific individuals were seeking services. Thus, an affirmative answer to this question might mean that the parent, the youth himself or herself, or someone else was seeking a service for the youth.

Table 4-1

PERCENTAGE OF YOUTH WITH UNMET NEEDS WHOSE PARENTS REPORTED THAT SERVICES WERE BEING SOUGHT FOR THEM, BY PRIMARY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hearing Impaired	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped
Vocational assistance	24.0	21.9	28.3	17.5	25.5	27.7	31.0	37.8	26.7	48.4
	(2.2)	(3.2)	(4.1)	(4.9)	(3.9)	(4.6)	(3.1)	(5.2)	(6.5)	(6.7)
n	1,725	273	209	105	210	171	418	157	83	99
Life skills training	12.6	8.8	15.2	12.7	17.5	13.3	15.6	18.5	13.8	28.7
	(1.8)	(2.6)	(3.7)	(5.1)	(3.3)	(3.5)	(2.5)	(4.2)	(5.4)	(5.6)
n	1,590	197	163	76	232	175	398	157	74	118
Tutoring, reading, interpreting	10.0	11.3	3.8	10.1	9.5	11.5	13.2	9.2	7.2	17.1
	(1.9)	(3.4)	(2.6)	(5.4)	(2.7)	(4.3)	(2.6)	(4.9)	(4.6)	(4.9)
n	1,109	146	94	54	195	99	297	63	57	104
Personal counseling	14.4	12.6	17.7	19.5	14.3	9.8	16.7	22.8	19.1	24.9
	(2.3)	(3.5)	(4.4)	(6.9)	(4.1)	(4.2)	(2.8)	(5.9)	(6.8)	(6.2)
n	1,119	148	128	58	125	89	328	94	62	87
Physical therapy	11.9	--	--	--	11.1	17.7	(Deaf) 11.9	19.3	17.1	21.5
	(3.4)	--	--	--	(4.5)	(5.3)	(5.3)	(5.0)	(8.6)	(5.7)
n	563	20	18	16	83	96	65	112	35	92

Standard errors are in parentheses.
Percentages are reported separately only for categories with at least 25 students

Which youth with unmet needs were least likely to have someone seeking services for them depended on the particular service. For example, youth classified as learning disabled or speech impaired were the least likely to have someone seeking life skills training for them, whereas youth classified as seriously emotionally disturbed were the least likely to have someone seeking tutoring, reading, or interpreting services for them. Interestingly, there were no statistically significant associations between service seeking for youth and their level of community living skills.

Individual and family characteristics. No associations were found between service seeking and a youth's gender or secondary school completion status. However, statistically significant differences in service seeking were found for youth of different ethnic backgrounds and household head's educational level. Services were less likely to be sought for Hispanic youth with unmet needs, than for white youth, according to parent

reports. For example, vocational assistance was being sought for 27% of white youth with unmet needs compared with 9% of their Hispanic counterparts, according to parents (Table 4-2; $p<.05$). The patterns of service seeking for African American youth were less clear. Like Hispanic youth, African American youth with unmet needs for life skills training or personal counseling were significantly less likely than white youth to have someone seeking each of these services for them (5% vs. 17%, $p<.01$, and 8% vs. 20%, $p<.05$, respectively). However, they were no less likely than white youth to have someone seeking the other services for them.

Table 4-2

PERCENTAGE OF YOUTH WITH UNMET NEEDS WHOSE PARENTS REPORTED THAT SERVICES WERE BEING SOUGHT FOR THEM, BY ETHNIC BACKGROUND AND HOUSEHOLD HEAD'S EDUCATIONAL ATTAINMENT

	Youth's Ethnic Background			Head of Household's Educational Attainment		
	White	African American	Hispanic	Less than High School	High School Graduate	Beyond High School
Vocational assistance	27.0	22.1	9.3	20.5	24.0	29.5
	(2.8)	(4.2)	(5.9)	(3.4)	(3.7)	(4.5)
n	1,000	414	153	569	592	484
Life skills training	17.1	5.3	6.5	8.8	11.6	19.5
	(2.6)	(2.6)	(5.1)	(2.7)	(3.0)	(4.1)
n	917	366	157	496	536	486
Tutoring, reading, interpreting	12.3	6.4	3.1	6.0	12.5	12.3
	(2.8)	(2.9)	(4.2)	(2.4)	(3.8)	(4.2)
n	570	304	121	403	355	300
Personal counseling	19.6	8.5	4.5	6.6	15	25.3
	(3.4)	(3.6)	(4.8)	(2.7)	(4.2)	(5.5)
n	596	280	124	369	356	345
Physical therapy	18.4	10.2	2.4	7.7	15.2	18.9
	(6.1)	(5.3)	(5.2)	(3.9)	(7.2)	(9.1)
n	286	162	60	211	175	145

Standard errors are in parentheses.

A similar pattern of service seeking favors youth from households with better educated heads. For each service, service seeking for youth with unmet needs was higher for youth whose household head had attended college than for youth whose household head had not completed high school, but differences are statistically significant only in the cases of life skills training (20% vs. 9%, $p<.05$) and personal counseling (25% vs. 7%, $p<.01$).

Because only parents who said their children needed a particular service are represented here, a difference in the extent of service seeking does not reflect a difference in parents' perceptions of need. However, it may reflect a difference in perception about the urgency or seriousness of the need for a particular service or about the importance of the service. For example, even among parents who thought their children needed personal counseling but were not receiving it, more parents who had attended college than parents who had not finished high school may have thought that the need for personal counseling was serious and that meeting the need was important, and this difference may have accounted for some difference in service seeking.

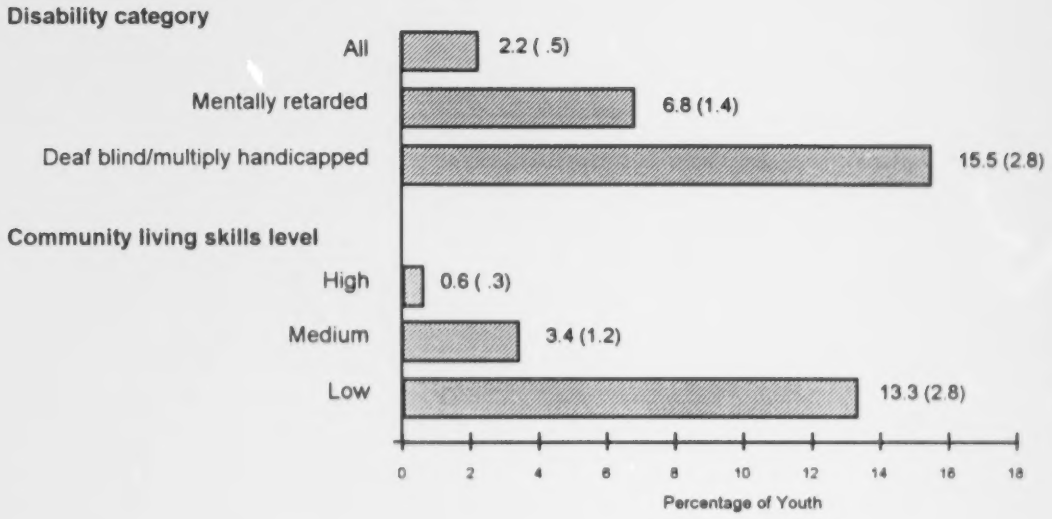
Another reason for differences in service seeking for minority and nonminority youth and for youth whose household heads have various levels of educational attainment may be that nonminority parents and parents with some college feel more able to deal with complex service systems and the individuals in them. Minority parents and parents with less education may be more easily overwhelmed by myriad agencies, forms, and gatekeepers that often must be negotiated in the attempt to obtain services. In addition, many of these parents may work at jobs in which it is difficult to obtain time off to pursue personal matters. Furthermore, Hispanic parents who are not fluent in English may be particularly reticent to seek services where Spanish-speaking personnel are not available.

Seeking Placements in Supervised Living Arrangements

Only 2% of youth with disabilities who were not residing in supervised living arrangements had parents who reported that someone was trying to arrange for their youth to live in such a facility (Figure 4-1). Although this figure is very low, it may be helpful for readers to put it into the context of the other services. In fact, it is not significantly different from the percentages of youth with disabilities as a whole (not just those in need of service) for whom life skills training (4%), tutoring (3%), personal counseling (3%), or physical therapy (2%) was being sought. The only service that parents were more likely to report seeking was vocational assistance; 11% of youth who were not receiving this service had someone who was seeking it (regardless of need).

Youth classified as mentally retarded or multiply handicapped were significantly more likely than youth with disabilities as a group to have someone trying to arrange for them to reside in a supervised living arrangement (7% and 15%, respectively; $p<.01$ for comparison to youth with disabilities overall).

As might be expected, the likelihood of trying to arrange for a supervised living arrangement was strongly associated with youths' functional abilities. Almost no youth with high levels of community living skills had someone who was trying to arrange for supervised living situations for them, whereas 13% of youth with low levels of skills had someone trying to make arrangements for them.



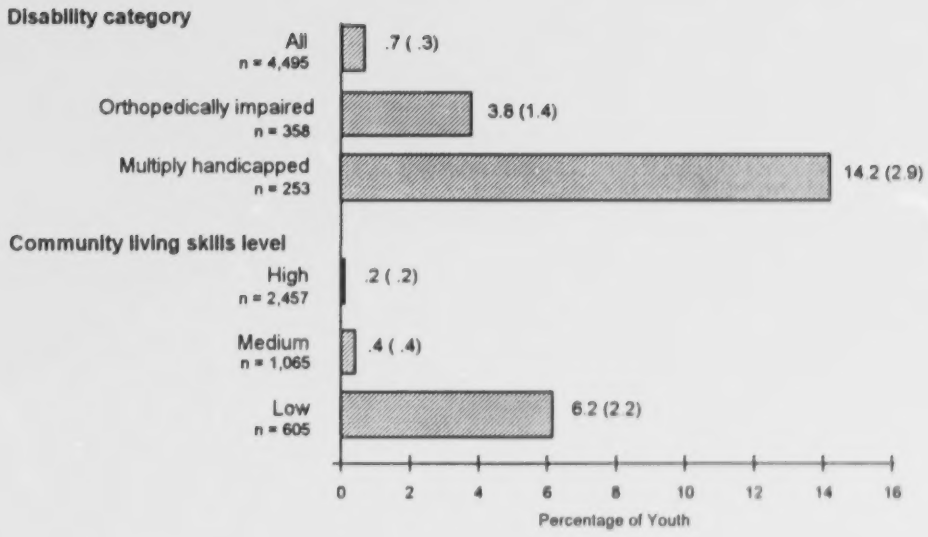
Standard errors are in parentheses.

FIGURE 4-1 PERCENTAGE OF YOUTH FOR WHOM SUPERVISED GROUP HOMES WERE BEING SOUGHT, BY PRIMARY DISABILITY CATEGORY AND LEVEL OF COMMUNITY LIVING SKILLS

Seeking Activity Center Programs

Pursuing participation in an activity center program also was very infrequent. Fewer than 1% of youth who were not participating in such programs were reported to have someone trying to arrange for participation in them. Nevertheless, participation in an activity center program was being sought for 14% of youth classified as multiply handicapped who were not attending such programs (Figure 4-2; $p<.001$). Having someone trying to arrange for participation in an activity center program also was slightly more common for youth classified as orthopedically impaired than for youth with disabilities in general (4%, $p<.05$).

Youth with low community living skills were more likely to have someone attempting to arrange for them to participate in activity center programs than youth with moderate or high levels of skills (6% vs. <1%). There were no differences in service seeking by other characteristics of youth.



Standard errors are in parentheses.

FIGURE 4-2 PERCENTAGE OF YOUTH FOR WHOM ACTIVITY CENTER PROGRAMS WERE BEING SOUGHT, BY PRIMARY DISABILITY CATEGORY AND LEVEL OF COMMUNITY LIVING SKILLS

Methods of Service Seeking

Although few youth had someone reportedly trying to arrange for a given service for them, most of those for whom services were sought had people doing so actively. Parents who reported that someone was seeking a given service were asked whether the service was being sought by "talking to someone about it," "contacting a place that gives [the service]," "filling out an application form for [the service]," or "something else." Of the four methods, the most common method of seeking each service was talking with someone about it. At least 80% of seekers of a given service had talked to someone about it (Table 4-3). The next most common way of pursuing services was contacting a place that provided that type of service; between half and three-fourths of service seekers had done this. Somewhat fewer parents reported that application forms had been filled out; the percentages who had done so ranged from 21% of seekers of tutoring, reading, or interpreting to around 50% of seekers of vocational assistance, supervised living arrangements, and activity center programs. About 40% of parents reported that service seekers had used all three methods to try to obtain vocational assistance, physical therapy, or activity center programs for their children. Between one-fourth and one-third of seekers of life skills training, personal counseling, and supervised living arrangements had used all three methods.

Table 4-3

METHODS OF SEEKING SERVICES

Percentage of service seekers who:	Vocational Assistance	Life Skills Training	Tutoring, Reading, or Interpreting	Personal Counseling	Physical Therapy	Supervised Living Arrange-ments	Activity Center Programs
Talked to someone about the service	88.1	89.7	91.6	84.6	80.7	95.2	98.0
	(3.2)	(4.1)	(5.4)	(5.8)	(11.0)	(3.6)	(3.4)
n	512	270	138	205	96	158	97
Contacted a place that gives the service	67.3	59.4	64.9	71.8	75.0	55.8	64.6
	(4.6)	(6.6)	(9.6)	(7.2)	(11.2)	(8.6)	(12.0)
n	502	270	135	205	93	155	94
Filled out an application form	56.0	31.9	21.4	36.6	40.2	49.5	52.4
	(5.0)	(6.5)	(8.3)	(7.9)	(14.1)	(8.6)	(12.3)
n	487	254	135	195	93	154	94
Did all of the above	40.8	24.3	18.3	33.3	45.8	27.4	41.7
	(5.0)	(5.0)	(8.0)	(7.8)	(13.1)	(7.7)	(12.4)
n	470	247	127	192	89	152	92
Used another method to seek service	6.2	3.6	3.2	12.9	3.2	45.3	.9
	(2.4)	(2.5)	(3.5)	(5.4)	(4.9)	(8.6)	(2.3)
n	512	270	134	202	96	154	95

Standard errors are in parentheses.

Youth on Waiting Lists

Between 15% and 20% of youth for whom services or placements were being sought were on waiting lists for most services (Table 4-4). A noteworthy exception was supervised living arrangements; among youth whose parents reported that someone was trying to arrange such a placement, almost half were on waiting lists. The small percentages of parents who reported seeking services, together with the fact that few youth were on waiting lists, even if services were being sought, means that very few youth with unmet needs for services were on waiting lists.

Table 4-4

PERCENTAGES OF YOUTH ON WAITING LISTS FOR SERVICES OR PLACEMENTS

Percentage of youth who were on waiting lists for:	As Percent of Youth for Whom Services Were Being Sought	As Percent of Youth Who Needed the Service But Were Not Receiving It
Vocational assistance	14.9	3.3
	(3.5)	(.9)
	496	1,762
Life skills training	14.6	1.7
	(4.9)	(.7)
	261	1,622
Tutoring	19.2	1.7
	(8.1)	(.8)
	135	1,134
Personal counseling	8.1	1.1
	(4.4)	(.7)
	201	1,138
Physical therapy	15.0	1.7
	(10.0)	(1.4)
	93	573
Supervised living situations	45.3	—*
	(8.6)	—
	154	—
Activity center programs	15.3	—*
	(19.3)	—
	90	—

Standard errors are in parentheses.

* Need was not determined for this placement.

5 SUMMARY

The findings of this section are summarized in terms of the research questions posed at the outset of this report.

To What Extent Did Youth with Disabilities Need and Receive Services?

The need for services (vocational assistance; life skills training; help from a tutor, reader, or interpreter; personal counseling or therapy; or physical therapy/mobility training) was reportedly quite pervasive among young people with disabilities in the early years after leaving secondary school. Overall, 70% of youth with disabilities were reported by parents to need at least one of the five services investigated by the NLTS. However, as anticipated by Will (1984), some youth were reported to need no special services in the first years after secondary school; about 30% of youth had parents who reported that their children needed none of the services for which need was measured.

Some of the services for which need was measured are broadly pertinent to youth with disabilities as a whole, such as vocational assistance. Most individuals, regardless of their disabilities, can work. Thus, it is not surprising that this service had the highest rate of reported need; parents reported that 60% of youth who were served by special education in secondary school needed job training in their early postschool years. Similarly, life skills training, including training in activities such as money management, home care, or basic personal-care skills, could potentially benefit many youth with disabilities. Four in 10 youth were reported by parents to need life skills training. Personal counseling also is a broadly applicable service; nevertheless, only about 30% of youth were reported to need counseling.

Tutoring/reading/interpreting and physical therapy/mobility training are more restricted in their applicability—tutoring/reading/interpreting either for youth in postsecondary schools or those with sensory disabilities, and physical therapy/mobility training for youth with physical or sensory disabilities. Tutoring/reading/interpreting services were needed by about 30% of youth with disabilities. Physical therapy/mobility training was needed by about one-fourth of youth classified as mentally retarded, visually impaired, deaf, orthopedically impaired, other health impaired, or multiply handicapped.

Few youth were receiving the services they were reported to need. Only about 1 in 4 youth who needed life skills training, tutoring/reading/interpreting, or personal counseling were receiving it. About 1 in 3 youth who needed job training or physical therapy/mobility training were receiving it.

Despite the variety in the types of services, there are some striking patterns in need for and receipt of them. Regarding disability-related characteristics of youth, those with the greatest level of need for all services were those most likely to receive help. Youth classified as multiply handicapped had the highest levels of need for all services and were always among the most likely to receive them. Nevertheless, in no case did more than 60% of youth with any disability classification who were reported to need a given service receive it.

At the other end of the spectrum, youth classified as learning disabled or speech impaired had the lowest levels of reported need for each service and were generally among the least likely to have their need met. Only about 1 in 5 youth with learning disabilities who needed life skills training; help from a tutor, reader, or interpreter; or personal counseling was receiving it, and only about 1 in 3 who needed vocational assistance was receiving it. The extent to which needs for particular services were met also was relatively low for youth classified as seriously emotionally disturbed, hard of hearing, or deaf. Fewer than 30% of youth classified as seriously emotionally disturbed who needed vocational assistance, life skills training, or help from a tutor, reader, or interpreter were receiving it. Similarly, fewer than 20% of youth classified as hard of hearing or deaf who were reported to need life skills training were receiving it, and only about 10% of youth classified as deaf who were reported to need physical therapy were receiving it.

Analysis of variations in need and receipt for youth with various levels of community living skills offers further evidence that, in general, youth with lower levels of functioning had greater needs for services and a greater likelihood of having needs met for most services. Many agencies have a mandate to serve the most severely disabled. For example, the 1973 Rehabilitation Act requires Vocational Rehabilitation to serve more severely disabled individuals before serving individuals with less severe disabilities (Rubin and Roessler, 1987). Thus, it is not surprising that, given a need for services, youth with low levels of community living skills were more likely than others to receive vocational assistance; life skills training; help from tutors, readers, or interpreters; or personal counseling. There was no difference in the extent of receipt of physical therapy/mobility training.

The pattern of need and service receipt was virtually the opposite of this regarding ethnic variations. Minority youth systematically were reported to have higher levels of need than white youth, yet also were systematically less likely to have those needs met. Similarly, dropouts also typically had higher levels of need for services than did graduates, perhaps because of not having the benefit of the education and services that graduates received during secondary school. Like minorities, however, their likelihood of getting the services they needed was significantly lower than that of graduates. Two reasons may partially account for this difference. First, dropouts did not have the benefit of transition planning that secondary school completers had. Thus, they may have been less likely to

be linked to service providers by their schools than were other youth. Second, some dropouts may not have wanted to receive services. A youth's dropping out of school may be symptomatic of his or her inability or unwillingness to participate in programs such as those that provide services.

Although there were few differences in reported need for most services based on the education of the youth's head of household, youth in need whose parents had not finished high school were less likely than youth whose parents had attended college to have their needs met regarding vocational assistance, personal counseling, or physical therapy/mobility training. These associations may result from the complexity of the adult service "system." Parents with lower socioeconomic status may find it more difficult to negotiate complex service systems and successfully advocate for their sons or daughters. Another possible reason is that affluence allows parents to purchase services for their sons or daughters from private sources.

Need for and receipt of vocational assistance followed a slightly different pattern that appeared to be related in part to a youth's current employment status and a parent's aspirations and expectations for the youth. Most youth who were reported not to need vocational assistance either were employed or had low levels of community living skills. In addition, parents with higher educational attainment themselves were more likely to report need for job training; aspirations for sons or daughters may be associated with a parent's own education. Among youth with reported need for vocational assistance, those who already had jobs were the most likely to be receiving vocational assistance (probably on-the-job training), whereas those without jobs had the greatest unmet need for vocational assistance.

Who Provided Services?

No single source of services predominated for young people with disabilities in their early postschool years. Postsecondary schools and agencies that serve individuals with disabilities were among the largest providers of services. Agencies serving individuals with disabilities provided life skills training to almost half of the youth who received such services, physical therapy/mobility training to more than 35% of service recipients, vocational assistance and/or counseling to about 25% of service recipients, and tutoring/reading/interpreting to about 20% of service recipients. Postsecondary schools provided vocational assistance or tutors, readers, or interpreters to about one-third of youth who received these types of services, respectively, and life skills training to about 13% of youth who received such training.

The most common other service providers differed for the various services. Families were the most frequent providers of tutoring/reading/interpreting, serving 40% of youth who received these services, whereas hospitals were among the most common sources of

personal counseling, serving one-fourth of service recipients. Hospitals also were a provider of physical therapy/mobility training for about one-fifth of youth who received it.

Neither employers nor VR agencies were common sources of any types of services. Parents reported that employers provided vocational assistance for 13% of youth who received it and life skills training for 11% of service recipients. VR was reported to have provided vocational assistance to 13% of youth who received such assistance and other types of services to only 3% to 6% of recipients of each type of service. As discussed in Section 2, VR may actually have been responsible for youths' obtaining more services than these findings suggest, particularly if parents did not report VR as the provider of services that VR arranged for the youth to receive from outside providers, which is a relatively common occurrence.

Common providers of services differed somewhat, depending on a youth's disability and on the particular service. Two patterns stand out, however. First, not surprisingly, postsecondary schools did not serve many youth classified as mentally retarded or multiply handicapped. Second, VR served considerably higher percentages of youth classified as hearing impaired than of other youth. For example, whereas VR served 12% of youth with disabilities overall who received vocational assistance, it served 33% of youth classified as hearing impaired who received such help. One reason for the difference may relate to the inclusion of VR counselors in transition planning. Cameto (1993) found that VR counselors were more likely to be included in transition planning for youth classified as hearing impaired than for youth classified as learning disabled, seriously emotionally disturbed, or speech impaired.

How Many Youth Were in Supervised Living Arrangements and Activity Center Programs?

Because supervised living arrangements and activity center programs are placements rather than services, need for them was not measured. Thus, in contrast to the other services, we examined the extent to which all youth with disabilities were being served in these placements, regardless of need.

Both of these types of placements typically serve individuals with severe disabilities; thus, it is not surprising that they served very few youth with high or medium community living skills levels. However, among youth with low levels of community living skills, 11% were residing in supervised living arrangements and 16% were participating in activity center programs.

Among youth with low levels of community living skills, head of household's educational attainment also was associated with likelihood of residing in a supervised living arrangement. Whereas only 5% of youth whose parents had not graduated from

high school resided in these types of facilities, almost 20% of youth whose parents had attended college resided in them.

Both residence in a supervised living facility and participation in an activity center program appear to be ongoing rather than temporary arrangements. More than half of youth who were in such placements at any time since leaving secondary school were reported to have been in them most or all of the time since leaving secondary school.

Were Services Being Sought for Youth with Unmet Needs?

Few parents reported that someone was seeking services for youth who needed them. With the exception of vocational assistance, fewer than 15% of parents indicated that someone was seeking each type of service for youth who needed it. Only about one-fourth of parents reported that someone was seeking vocational assistance. Individuals who were seeking services typically had verbal contact with someone other than the potential service provider about the service. Three-fourths of parents or fewer reported that a service seeker had been in verbal contact with a service provider, and, in general, fewer than half reported that an application had been filled out.*

Severity of disability appears to be associated with service seeking for youth with needs. Youth classified as multiply handicapped with unmet needs were more likely than others to have someone seeking services for them. In addition, level of community living skills was associated with someone's seeking vocational assistance and/or life skills training, but not tutoring, counseling, or physical therapy/mobility training. These efforts may pay off; as we have seen, youth classified as multiply handicapped and those with low community living skill levels were among the most likely to receive the services they needed.

When there were significant differences, youth whose head of household had some college education were more likely to have someone seeking services for them. In addition, white parents were more likely than minority parents to report that someone was seeking services for youth with unmet needs. Hispanic parents were particularly unlikely to report service seeking.

Almost no youth who were not residing in supervised living facilities or participating in an activity center program had someone trying to arrange for such a placement for them. Among youth with low levels of community living skills, somewhat more—about 10%—had someone trying to arrange for residence in a supervised living arrangement, and 6% had someone trying to arrange for participation in an activity center program. When viewed in the context of the percentages of parents seeking other types of services for youth, regardless of need, these percentages are somewhat lower, but only by a few percentage

* The exception is job training, for which 56% of service seekers had filled out applications.

points. People who were trying to arrange for these types of placements for youth tended to use the same methods as those who were seeking other types of services.

Why Weren't Youth Getting the Services They Needed?

Why so few parents were seeking services is not clear. On one hand, need for services is subjective, and some youth may disagree with their parents' assessment of their needs. In an analysis of eligible applicants for Vocational Rehabilitation services, Wine, Hayward, and Wagner (1993) found that 57% of applicants refused the services they were offered. Thus, in some cases, youths' not wanting services may be a reason that they were not getting them and no one was seeking them, despite the fact that the parents felt that they needed them.

On the other hand, other youth may have sincerely desired to receive services but may have been daunted by the service system itself. Others with severe disabilities may have had no opinion about receipt of services, but could not possibly arrange for their own services. Publicly funded agencies have seldom had enough funds to provide services to all applicants. In recent years, budget cuts have meant that even fewer individuals can be served. In addition, the bureaucracies of the service systems are complex and can be difficult to deal with. Thus, a good advocate often can make the difference between obtaining services or not, as is illustrated by the fact that youth whose household heads had higher levels of education were more likely than others to be receiving services. Indeed, less-educated parents and minority parents were even less likely to be seeking services than were parents with more education and white parents.

Recognizing that many youth with disabilities who continue to need services after they leave secondary school are unlikely to obtain them, unless others arrange for them the federal government's Transition Initiative places responsibility for transition planning with schools. Schools are intended to work actively with parents, students, and adult service providers to negotiate postschool services needed by youth.

The NLTS surveyed teachers regarding transition planning being done for youth with disabilities and found that, even in 1989 and 1990 (before transition planning was federally mandated), approximately 80% of 12th-graders who were classified as learning disabled, emotionally disturbed, speech impaired, mentally retarded, or hearing impaired* had transition plans, and about half of the transition plans were written (Cameto, 1993). If these plans were effective, one would expect that most youth would be receiving the services they needed after secondary school. Yet service receipt did not approach parents' perceptions of service need. Why?

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* Teachers of youth with other disabilities were not surveyed.

A clue as to why more youth were not receiving the services they were perceived to need may be found in who was included in transition planning efforts and what types of service providers were contacted as part of the process. Cameto (1993) found that in regular secondary schools, special education teachers, school counselors, parents, and students themselves routinely participated in transition planning. However, Vocational Rehabilitation counselors were included in the transition planning of only one-fourth of 12th-graders and of 37% of students not assigned to grade levels. Furthermore, staff from other types of agencies were included in the process for only 3% of 12th-graders and 22% of students not assigned to grade levels.

As mentioned earlier, the variation of inclusion of Vocational Rehabilitation counselors and other agency staff appears to parallel the receipt of services by youth with needs. In particular, Vocational Rehabilitation counselors were included in the transition planning of only 9% of youth classified as seriously emotionally disturbed, 16% of youth classified as speech impaired, and 22% of youth classified as learning disabled. In contrast, they were included in the transition planning of 36% of youth classified as mentally retarded and 50% of youth classified as hearing impaired. Other agency staff were never included in the transition planning of youth classified as seriously emotionally disturbed or speech impaired, for fewer than 1% of youth classified as learning disabled, but about 8% of youth classified as hearing impaired or mentally retarded.

Cameto (1993) also examined the contacts made by schools as part of transition planning. Reflecting the needs of most youth, most contacts were with potential providers of job training. State VR agencies were contacted in about 66% of cases, and postsecondary vocational training programs were contacted for about 30% of students. Other vocational training programs were contacted for fewer than 20% of youth. Social service agencies were contacted somewhat less, and mental health agencies were contacted only infrequently. Contacts with all of these types of providers were less frequent for youth who were classified as seriously emotionally disturbed, and less frequent with all but postsecondary vocational training programs for youth who were classified as learning disabled. (It is noteworthy that in no cases was a mental health agency contacted as part of the transition planning of youth classified as seriously emotionally disturbed.) In contrast, when transition planning was for youth classified as mentally retarded or hearing impaired, it was more likely to include contacts with state VR agencies, other vocational training programs,* and social service agencies than for other youth. Mental health agencies also were more likely to be contacted as part of the transition planning of youth classified as mentally retarded.

These patterns of inclusion and contacts of transition planning, together with the findings from this report that youth classified as hearing impaired or mentally retarded had relatively high rates of service and that youth classified as learning disabled or seriously

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* Other vocational training programs are those that did not include postsecondary schools, VR agencies, job placement programs, or employers.

emotionally disturbed were less likely than other youth to receive the services they needed, are suggestive of the power of transition planning.* Additional evidence for the importance of transition planning is the more frequent inclusion of VR staff in the transition planning of youth classified as hearing impaired and the high rate of service by VR to these youth.

Schools could be powerful advocates for their students who will need services from the adult system after leaving school. Nevertheless, they will not continue to provide services to the youth once they are no longer students. Thus, a school could not help a youth 6 months after exiting school if a service provider closed its doors and the youth needed another provider, or if a youth needed additional services because of a worsening condition. Therefore, in addition to making the links with agencies and providers while youth are in school, an important component of transition planning might be for schools to educate parents regarding the service system so that all parents could be better advocates for their sons our daughters.

Obtaining services under the conditions of scarcity that exist in the 1990s is difficult. Transition planning should help, but as implemented in the late 1980s, it does not appear to be enough to link youth with services they were perceived by parents to need. Hopefully, future research will examine the transition planning process more fully as implemented under the IDEA mandate and be able to specify better ways to ensure that youth receive the services they need.

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* The associations are less than perfect, however. Contacts with various service providers were made for relatively high percentages of youth classified as speech impaired; however, youth with this classification who had needs for services were among the least likely to be receiving them.

REFERENCES

Arrow, K. (1972). Models of job discrimination. In Pascal, A. (ed.) *Racial discrimination in economic life*. Lexington, MA: D. C. Heath.

Blackorby, J. (1993). Participation in vocational education by students with disabilities. In Wagner, M. (ed.), *The secondary school programs of students with disabilities: A report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

Cameto, R. (1993). Support services provided by secondary schools. In Wagner, M. (ed.), *The secondary school programs of students with disabilities: A report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

D'Amico, R., and Blackorby, J. (1992). Trends in employment among out-of-school youth with disabilities. In Wagner, M, D'Amico, R., Marder, C., Newman, L., and Blackorby, J. *What happens next? Trends in postschool outcomes of youth with disabilities. The second comprehensive report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

DeStefano, L., and Wermuth, T. (1992). P.L. 104-476: Defining a new generation of transition services. In Rusch, F. R., DeStefano, L. Chadsey-Rusch, J., Phelps, L. A., and Symanski, E. (eds.), *Transition from school to adult life for youth and adults with disabilities*. Sycamore, IL: Sycamore Publications.

Freedman, M. (1969). *The process of work establishment*. New York: Columbia.

Harrison, D., and Wayne, B. (1987). Female and male acceptance for rehabilitation, *Journal of rehabilitation, 53*, 37-39.

Hasazi, S., Gordon, L., and Roe, C. A. (1985). Factors associated with the employment status of handicapped youth exiting high school from 1979 to 1983. *Exceptional Children*, 51, 455-469.

Javitz, H., and Wagner, M. (1993). *The National Longitudinal Transition Study of Special Education Students: Sample characteristics and procedures, wave 2 (1990)*. Menlo Park, CA: SRI International.

Knitzer, J.(1992). Children's mental health policy: Challenging the future. *Journal of Emotional and Behavioral Disorders, 1*, 8-16.

Marder, C. (1992). Education after secondary school. In Wagner, M., D'Amico, R., Marder, C., Newman, L., and Blackorby, J. *What happens next? Trends in postschool outcomes of youth with disabilities. The second comprehensive report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

Marder, C., and Cox. R. (1991). More than a label: Characteristics of youth with disabilities. In Wagner et al., *Youth with disabilities: How are they doing? The first comprehensive report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

Mithaug, D., Horiuchi, C., and Fanning, P. (1985). A report on the Colorado statewide follow-up survey of special education students. *Exceptional Children, 51*, 397-404.

National Alliance for the Mentally Ill. (1992). *Public Policy Statement*. Washington, D.C.

Newman, L. (1992). Growing up, moving on: Aspects of personal and residential independence. In Wagner et al., *Youth with disabilities: How are they doing? The first comprehensive report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

Osterman, P. (1980). *Getting started*. Cambridge, MA: MIT Press.

Rosen, Rice, Walsh, Hartman, and McCallion (1993) or is it 1992?

Rubin, S. E., and Roessler, R. T. (1987). *Foundations of the vocational rehabilitation process* (3rd ed.). Austin, TX: Pro-ed.

Spence, M. (1974). *Market signalling*. Cambridge, MA: Harvard University Press.

U.S. Department of Education. (1988). *To assure the free appropriate public education of all children with disabilities. Tenth annual report to congress on the implementation of the Individuals with Disabilities Education Act*. Washington, DC: GPO.

U.S. Department of Education. (1992). *To assure the free appropriate public education of all children with disabilities. Fourteenth annual report to Congress on the implementation of the Individuals with Disabilities Education Act*. Washington, DC: GPO.

Valdés, K. A., Williamson, C. L., and Wagner, M. M. (1990). *Statistical almanac, Volume 1: Overview*. Menlo Park, CA: SRI International.

Wagner, M. (1992). *Being female: A second disability?* Paper presented to the American Educational Research Association, San Francisco, CA: April, 1992

Wagner, M. (1991a). *Dropouts with disabilities: What do we know? What can we do?* Menlo Park, CA: SRI International.

Wagner, M. (1991b). Sticking it out: Secondary school completion. In Wagner et al., *Youth with Disabilities: How are they doing? The first comprehensive report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

Wagner, M., D'Amico, R., Marder, C., Newman, L., and Blackorby, J. (1992). *What happens next? Trends in postschool outcomes of youth with disabilities. The second comprehensive report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

Wagner, M., Newman, L., D'Amico, R., Jay, E. D., Butler-Nalin, P., Marder, C., and Cox, R. (1991). *Youth with disabilities: How are they doing? The first comprehensive report from the National Longitudinal Transition Study of Special Education Students*. Menlo Park, CA: SRI International.

Wagner, M., Newman, L., and Shaver, D. (1989). *Report on procedures for the first wave of data collection (1987)*. Menlo Park, CA: SRI International.

Will, M. (1984). *OSERS programming for the transition of youth with disabilities: Bridges from school to work*. Washington, DC: Office of Special Education and Rehabilitative Services, U.S. Department of Education.

Wine, J., Hayward, B., and Wagner, M. (1993). *Vocational Rehabilitation services and outcomes to transitional youth*. Research Triangle Park, NC: Research Triangle Institute.

Appendix

ESTIMATION OF STANDARD ERRORS

The NLTS stratified cluster sample introduces design effects that reduce the precision of estimates for a sample of a given size, compared with a simple random sample. The design effects within the NLTS affect the precision of estimates to various degrees for different subpopulations and different variables. Pseudo-replication is widely accepted as a variance estimation technique in the presence of design effects. However, it is not cost-effective for estimating the standard errors of the thousands of variables and subpopulations tabulated in the numerous NLTS reports and its statistical almanacs. Therefore, pseudo-replication was conducted on a limited number of variables to calibrate a cost-effective approximation formula, using the following procedures:

- A set of 25 variables representing the parent interview, school program survey, and record abstract was identified for the purpose of developing a statistical approximation formula; these included 16 nominal variables and 9 continuous variables.

- Standard errors of the weighted means of the selected variables were estimated in two ways. The first procedure involved pseudo- replication. For each variable, standard errors were calculated for students in each disability category and for the total sample (300 standard errors) using a partially balanced experimental design specifying how youth were to be allocated to 16 half-samples. The sample was split on the basis of the school districts and special schools from which youth originally were sampled. Districts and schools were paired on the basis of enrollment and a measure of poverty, and one member of each pair was assigned to each half-sample. Sample weights were computed for each half-sample as if those in the half-sample were the only study participants.

  The following formula was used to estimate the standard error of the mean for youth in all conditions:

  $$\text{Standard error} = [(1/16)\ 16_i\ (M_i - M)^2]^{1/2}$$

  where M_i is the mean calculated for youth in one of the 16 half-samples, M is the mean response calculated from the full sample, and the summation extends over all 16 half-samples. (Note that responses to questions from the school program survey were attached to the records of students in the responding schools so that means for these items were computed using student weights.)

- The second estimation procedure involved an approximation formula based on an estimate of the effective sample size for each disability category and the total sample. The sampling efficiency (E) for a group was calculated using the following formula:

$$E = M_w^2/(M_w^2+S_w^2)$$

where M_w and S_w are the mean and standard deviation of the student weights over all members of the group. The approximation formula for the standard error of the weighted mean of nominal variables is:

$$\text{Standard error} = [P(1-P)/(E \times N)]^{1/2}$$

where P is the full-sample weighted proportion of "yes" responses to a particular question in the group, N is the unweighted number of "yes" or "no" responses to the question in the group, and E is the sampling efficiency of the group. The approximation formula for the standard error of the mean of a continuous variable is:

$$\text{Standard error} = [S_2/(N \times E)]^{1/2}$$

where S_2 is the variance of responses in the group for the continuous variable (computed with frequencies equal to full-sample weights) and N is the unweighted number of respondents to the question in the group. These formulas were used to compute a total of 300 standard errors for the same variables and groups addressed using pseudo-replication.

- To assess the accuracy of the standard errors produced by these formulas, we used scatter plots to compare them with standard errors produced using pseudo-replication. For both nominal and continuous variables, the approximate best fit was a 45 degree line. That is, on average, the formula based on estimates of effective sample size neither systematically overestimated nor underestimated the standard error obtained using pseudo-replication, arguing for use of the more cost-effective estimation formulas. However, because error remains in the estimates that might result in underestimating the true standard errors in some instances, we took a conservative approach and multiplied the standard errors produced with the estimation formulas by 1.25. The vast majority of the standard errors so obtained were larger than the standard errors obtained by pseudo-replication. Thus, standard errors were calculated using the effective sample size estimation formulas and increased by a factor of 1.25.

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